PAFOS

Chapter 4

Provisioning

CHAPTER 4
PROVISIONING
Table of Contents

4.1.0 Introduction

Assistant Secretary of the Navy (Research, Deve lopment and Analysis) [ASN (RD&A)] policy states it is imperative that all equipment, including commercially available equipment, be logistically supported for its life cycle. The Navy's intent is to buy cost effective support to satisfy user requirements. Operational scenario and readiness objectives form the basis for this support. Specifically, total cost of ownership, the maintenance concept for the equipment, standardization, and supportability requirements will be considered.

Based on ASN(RD&A) policy, all systems and equipment will require some level of provisioning to establish supply support. Provisioning is the process of determining and acquiring the range and depth of material necessary to support and maintain a system or equipment for all levels of maintenance for an initial period of service. The term "range" refers to the number of different spare parts carried onboard, while the depth refers to the number of each part carried onboard.

Innovative strategies for logistically supporting the commodity types are encouraged and should be invisible to the Fleet. One way this can be accomplished is through the establishment of a Provisioning Team. The Provisioning Team will exchange information with the Program IPT and provide assistance during the supply support methodology determination process, tailoring supply support requirements, implementing streamlining techniques, and developing contractual requirements.

Provisioning data are derived by engineers through analysis of the Reliability and Maintainability (R&M) data. The engineering community is responsible for performing a Repair Analysis Supportability Summary. This information provides provisioning data required to establish supply support. The Logistics Management Information (LMI) Performance Specification (MIL-PRF-49506) provides policy for obtaining provisioning data. The provisioning information obtained from the modified LMI Worksheet (see Appendix A, Program Manager Guide), the Program Support Data (PSD) sheets, and the maintenance concept provide the data required to accomplish the provisioning process. These data, along with system and equipment drawings, are needed to determine the range and depth of spare and repair parts required for operation, maintenance, repair and overhaul of the hardware being acquired.

4.2.0 Provisioning Background

Part of the decision-making process that determines the range of parts to go onboard ship includes deciding what levels of maintenance are appropriate for a given equipment. Organizational Level Maintenance refers to maintenance actions performed by the user activity. Repair actions requiring greater maintenance capability are known as Intermediate Level Maintenance actions and are performed by tenders or Shore Intermediate Maintenance Activities (SIMAs). Highly complex maintenance actions may be performed by the original manufacturer or a Naval or private shipyard. This is known as Depot Level Maintenance.

The maintenance planning process begins prior to the provisioning process for each new equipment to determine correct level-of-maintenance decisions. A Maintenance Planning Supportability Analysis Summary is performed first to determine the maintenance philosophy for the equipment. A Repair Analysis Supportability Summary can then be used to define the maintenance concept for an equipment, and define the maintenance actions to be performed at each maintenance level for that piece of equipment. The LMI Performance Specification provides additional guidance on Supportability Analysis Summaries.

PTD is the generic term used to reference the various types of provisioning data bought from a manufacturer. This term is used by the DOD components for the identification, selection, and determination of initial requirements and cataloging of support items to be procured through the provisioning process. Applicable PTD consists of EDFP, CID, and various Data Product Deliverables including:

(a) Provisioning Parts List (PPL)
(b) Long Lead Time Items List (LLTIL)
(c) Repairable Items List (RIL)
(d) Interim Support Items List (ISIL)
(e) Tools and Test Equipment List (TTEL)
(f) Common and Bulk Items List (CBIL)
(g) Design Change Notices (DCN)
(h) Post Conference List (PCL)
(i) System Configuration Provisioning List (SCPL)
(j) Ship Level Provisioning Parts List (SLPPL

The level of detail for the PTD will depend on whether the system or equipment has parts subject to wear-out, failure, or replacement and that require maintenance at the organizational, intermediate, or depot level. Systems or equipment that do not

require piece part support will require adequate PTD to establish a configuration record for the system or equipment. The requirement for PTD must be specified in the system or equipment contract by invoking the applicable performance specification modified to meet the specific requirement of the individual Navy acquisition.

4.3.0 Provisioning Policy and Guidance

Chief of Naval Operations (CNO) policy directs that all new equipment, modifications or alterations to existing equipment be logistically supported. Documents that define policy and/or guidance on provisioning include this manual, the LMI Performance Specification (MIL-PRF-49506), the NAVSEA Program Manager Guide (PMG)(see Appendix A), and the Acquisition Logistics Handbook (MIL-HDBK-502) dated May 1997. The LMI Performance Specification replaced Military Standard 1388.2B. The LMI Performance Specification applies to all services within the Department of Defense (DOD).

A significant part of the provisioning process is teaming. A Provisioning Team should be established early in the acquisition process to optimize the provisioning process and exchange information with the Program Integrated Product Team (IPT) on various supply support methodologies. At a minimum this team should consist of representatives from the Acquisition Program Manager's office (the PM), the Technical Support Activity (TSA), the Naval Inventory Control Point (NAVICP), and the manufacturer. The team is formed prior to contract award with the purpose of determining the program's specific provisioning requirements based on the supply support methodology chosen. The Provisioning Team will assist the Program Manager in determining the appropriate supply support methodology, and tailoring the Statement of Work (SOW), Contract Data Requirements Lists (CDRLs), and Logistics Management Information (LMI) Worksheet to reflect the appropriate Provisioning Technical Data (PTD) requirements. The Provisioning Team also functions to streamline the provisioning process to minimize and/or eliminate the need for Interim Supply Support (ISS). The teaming approach allows the TSA and NAVICP to be involved in decisions made early in the acquisition process which will later affect the overall supply support process.

4.3.1 NAVSEA Provisioning Policy

The provisioning process begins with the acquisition of Provisioning Technical Documentation (PTD) for the establishment of supply support for all levels of operations and maintenance.

PTD will be provided in electronic format which the Navy can sort into different provisioning data products. These data products are described in Section 4.5.0.

PTD will be included in each hardware acquisition requiring spare and repair parts support.

A NAVSEA engineering activity will be designated and funded to serve as the TSA responsible for validating and generating the technical and engineering data and decisions of the provisioning process.

The TSA will submit all initial provisioning and all subsequent Allowance Parts List (APL) updates/corrections to NAVICP via the Interactive Computer Aided Provisioning System Client-Server (ICAPS C/S).

This means that NAVICP's File Maintenance Tool (FMT) as well as any other methods or tools for assigning or updating/correcting the above data elements are not authorized for NAVSEA equipment. For more information on the above elements, see paragraph 4.8.0 (Provisioning Decisions).

It is the responsibility of each NAVSEA Program Manager (PM) to establish the Provisioning Team, explore provisioning streamlining techniques, invoke PTD and PIOs, plan, program and budget for PTD and provisioning actions, designate a TSA, fund and provide engineering services and technical data to complete the provisioning process, and establish supply support at POC. Specific roles and responsibilities are defined in section 4.3.5.

As delineated in the NAVSEA Organization Manual, the Deputy Commander for Nuclear Propulsion (SEA 08) is responsible for all technical matters pertaining to nuclear propulsion of the U. S. Navy ships and craft, including all aspects of integration of the nuclear plant into the ship system. Nothing in this technical specification detracts in any way from those responsibilities. Additionally, the policy and guidance in this technical specification are not applicable to TRIDENT Weapon Systems which use the Consolidated Data File (CDF).

4.3.2 NAVSEA Program Manager Guide

To make sure that all the provisioning requirements become part of the contract used to buy a ship or system/equipment , NAVSEA has developed a Program Manager Guide which provides examples of the documents needed in a contract in order to get complete and accurate PTD for the following commodity types:

a. Developmental Systems and Equipment

b. Commercial and Non-Developmental Items (CaNDI)

c. Shipbuilding and Conversion

d. Ship Overhaul and Availability

e. Small Boats and Craft

It describes the *minimum recommended* requirements that might be called for in a contract. It is the responsibility of the Program IPT and the Provisioning Team to tailor the support requirements for each individual acquisition. Additional requirements should be included as necessary. The NAVSEA Program Manager Guide is provided as Appendix A.

The NAVSEA Program Manager Guide provides the following information to assist the Acquisition Manager in preparing the contract to include provisioning requirements:

a. A blank Provisioning Requirements Introduction form to be completed by the PM, with input from the Provisioning Team;

b. A blank (modified) LMI Worksheet to be completed by the PM, with input from the Provisioning Team ;

c. Sample Statement of Work(SOW);

d. The Contract Data Requirements Lists (CDRLs) (DD Form 1423-2) and accompanying Data Item Descriptions (DIDs) for each contract deliverable ;

Another important document in describing the provisioning requirements needed to support Navy ships and equipment is the Ship's Specification.

4.3.3 Ship's Specifications

Each ship that the Navy contracts to build has a Ship's Specification. This document describes a wide range of requirements that need to be met in order for the shipbuilder to complete the shipbuilding contract. This includes requirements such as the type and grade of steel to be used in building the ship, the number and placement of fire extinguishers, and supply support requirements. The section of the Ship's Specification that speaks to supply support, known as the 083 Section, defines provisioning and explains its part in achieving supply support.

Each Ship's Specification is specially written for that class of ship and is tailored from a generic document produced by the Navy known as the NAVSEA General Specification S9AAOA-AA-SPN-010 or Gen Spec for short.

It does not require the Contractor or shipbuilder to provide PTD. The contract and CDRLs (which the PMG provides as samples) make provisioning information a "deliverable" and part of the contract. The following section examines the provisioning requirements that are invoked in a contract.

4.3.4 Policy on Contractual Provisioning Requirements

a. PTD requirements will be submitted in accordance with the PMG which is based on MIL-PRF-49506. PTD will be invoked as a separate line item in all ship systems and equipment contracts. PTD requirements will be invoked in *both* the EMD acquisition phase contract and the production contract for Developmental Items and Commercial and Non-Developmental Items (CaNDI).

b. PTD for the acquisition of follow-on systems or equipment purchased from the original contractor may use the provisioning specification invoked in the original contract.

c. PIO options will be included in all contracts.

d. Waivers of provisioning requirements, either during contract negotiations or after contract award, will not be allowed.

e. PTD is required for CaNDI. The specific provisioning requirements will be determined by the Program IPT.

4.3.5 Provisioning Requirement Responsibilities

The responsibilities for provisioning in the Navy are defined in the following paragraphs:

4.3.5.1 Fleet Logistics Support Directorate, NAVSEA 04L

a. Establish and maintain current directives and instructions to provide provisioning guidance so that PMs can properly contract for provisioning data.

b. Operate the Program Support Data Automated Reporting and Tracking System (PARTS) data base to assist in the preparation of PSD sheets for systems and equipment. Consolidate

PSD sheets for submittal to NAVICP. Assist in budgeting for outfitting funds.

4.3.5.2 Ship Program Manager (SPM) (New Construction)

a. Ensure complete and correct provisioning requirements are included in the shipbuilding contract and ensure those requirements are met.

b. Ensure that provisioning is accomplished on schedule for designated CFE and GFE being acquired for programs under their cognizance.

c. Provide Ship Project Directive (SPD) to the PM for GFE being installed.

d. Tasks the TSA to provide guidance and assistance to all provisioning activities as required. Ensure that PTD for both CFE and GFE is delivered to NAVICP, via the TSA, in time to accomplish provisioning and supply support by the system/equipment MSD.

e. Require the NAVSEA/SPAWAR PMs to provide GFE provisioning status to the Naval Supervising Activity (NSA) for entry into the configuration data base.

f. Plan, program, and budget for the acquisition of PTD and for those provisioning actions to be accomplished by designated NAVSEA engineering activities/TSAs.

g. Incorporate the requirements for PTD and Provisioned Item Orders (PIOs) as separate contract line item PRs and contracts for ship construction or conversion and for boat and craft construction. Include requirements for PTD in Ship Project Directives (SPDs). Monitor the System and Equipment PMs to enforce the requirement for PTD.

h. Require shipbuilding, boat and craft building Contractors to include the requirement for PTD in their subcontracts for systems and equipment. Require maximum utilization of the system or equipment manufacturer, system integrator, or Navy Industrial Facility data bases to fully develop PTD.

i. Convene a Provisioning Guidance Conference within 90 days after shipbuilding contract award to ensure the shipbuilder understands the provisioning requirements for CFE. Ensure that concerned activities attend the conference. Finalize and confirm a PTD Submission Schedule at this conference.

j. Ensure PTD for CFE is submitted to the TSA for review.

k. Establish MSDs and prepare PSD sheets in coordination with NAVICP for designated Mission Critical CFE and for CFE requiring spares which cost over $100K per year (For additional information see Chapter 3 of PAFOS).

l. Provide the ship's maintenance planning documentation to the TSA and NAVICP.

m. Invoke the provisioning requirements, as tailored to the individual program by the IPT, in all new acquisitions.

n. Ensure that PTD for systems and equipment assembled or fabricated by a Navy Industrial Activity is prepared to the same specification and level of detail as PTD procured from a system or equipment manufacturer.

o. Establish/participate as member of IPTs as required.

4.3.5.3 Ship Program Manager (SPM) (Operational)

a. Ensure that the requirement for provisioning data is included as part of all contracts for CFE bought by the commercial shipyard performing the overhaul/availability work.

b. Ensure that provisioning is accomplished on schedule for GFE and locally procured equipment being acquired for programs under their cognizance.

c. Tasks the TSA to provide guidance and assistance to all provisioning activities as required. Monitor the system and equipment Program Managers, the NSA, the TSA, and NAVICP to ensure that PTD is obtained and processed in time to meet the operational requirements of a ship undergoing overhaul and repair.

d. Plan, program, and budget for the acquisition of PTD and for those provisioning actions to be accomplished by designated NAVSEA engineering activities.

e. Incorporate the requirement for PTD as a separate contract line item in Navy shipyard PRs and contracts for ship overhauls and ship availabilities.

f. Require naval shipyards and private Contractors performing ship overhauls and ship availabilities to include the requirement for PTD for locally procured equipment in their subcontracts for systems and equipment. Require maximum utilization of system or equipment manufacturer, system integrator, or Navy Industrial Facility in the development of PTD.

g. Ensure that locally procured equipment PTD is submitted to the TSA.

h. Ensure that PTD for systems and equipment assembled or fabricated by a Navy Industrial Facility is prepared to the same specification and level of detail as PTD procured from a system or equipment manufacturer.

i. Establish/participate as member of IPTs as required.

4.3.5.4 System or Equipment Program Manager (PM)

a. Purchase the Government Furnished Equipment (GFE) and ensure that correct and complete provisioning requirements are included in contracts for systems or equipment, all design changes, alterations and modifications. Require system integrators and system or equipment manufacturers to include the requirement for PTD and PIO in their subcontracts.

b. Tasks the TSA to provide guidance and assistance to the system or equipment manufacturer or system integrator in preparation of provisioning data invoked in the contract.

c. Plan, program, and budget for the acquisition of required PTD and for those provisioning actions to be accomplished by the designated TSA.

d. Develop PSD sheets and negotiate the MSD with NAVICP and submit to NAVSEA 04L. PMs will use the PARTS data base in the preparation and control of PSD sheets.

e. Ensure ISS option is included in the equipment contract. For organically supported systems and equipment, ISS will be required from the POC date until MSD is achieved (See Chapter 5 of PAFOS).

f. Designate a NAVSEA engineering activity to act as a TSA in technical matters pertaining to provisioning and to carry out the TSA responsibilities as assigned by this document.

Monitor the TSA's progress to ensure PTD is delivered to NAVICP in a timely manner.

g. Ensure that PTD is submitted and that provisioning actions are completed in time to achieve supply support by the POC. This eliminates the need for ISS.

h. Ensure that provisioning data is submitted to NAVICP, via the TSA, for the system or equipment during its life cycle for all changes alterations, field changes, part changes, etc.) that occur after production.

i. Establish and chair provisioning conferences.

j. Provide the system or equipment maintenance planning documentation to the TSA and NAVICP.

k. Provide copies of drawings and technical data which will support the competitive procurement of nonstandard spare and repair parts as part of the PTD when a system or equipment acquisition includes the cost of design and development as a Government expense.

l. Invoke PTD requirements in accordance with MIL-PRF-49506 in both the EMD contract and the production contract for developmental items and Commercial and Non-Developmental Items (CaNDI).

m. Provide periodic provisioning status for each item of GFE to the cognizant NSA for input to the configuration data base.

n. Establish/participate as member of IPTs as required.

4.3.5.5 NAVSEA Technical Support Activity (TSA)

a. Act as the engineering representative for technical matters pertaining to provisioning of GFE and CFE systems and equipment.

b. Receive PTD from the system or equipment manufacturer, system integrator, Navy Industrial Facility, or NSA for review and acceptance or rejection. Acceptance or rejection will be based on, but not limited to, acquisition Contract Data Requirements Lists (CDRLs) and on the adequacy of the PTD to complete provisioning.

c. Utilize ICAPS C/S for all initial provisioning and subsequest Allowance Parts List (APL) updates/corrections submissions to NAVICP.

d. Verify or complete technical coding of PTD in accordance with the maintenance plan.

e. Determine supply support configuration/APL worthiness.

f. Forward approved PTD to NAVICP for further processing.

g. Ensure that provisioning information is submitted to NAVICP for all ISEA-initiated changes to systems or equipment.

h. Provide provisioning status to designated activities as required.

i. Participate in required provisioning conferences.

j. Notify the Program Manager of any problems that will prevent timely completion of PTD processing.

k. Review APLs developed as a result of provisioning and coordinate corrections/updates with NAVICP. Ensure that APLs provide required supply support (down to the repair part level) for the system or equipment being acquired.

l. Reflect the supply support methodology through the assignment of the Logistic Support Status Code (LSSC).

m. Participate as member of IPTs as required.

4.3.5.6 Naval and Commercial Shipyards

a. Ensure that the requirements for PTD are invoked in contracts for emergent systems and equipment acquired for ships undergoing repair and modernization.

b. Purchase provisioning information for locally procured equipment bought by the shipyard.

c. Prepare PTD for shipyard manufactured or fabricated system or equipment.

d. Forward PTD to the TSA.

e. Ensure configuration files are updated.

f. Attend provisioning conferences.

g. Participate as member of IPTs as required.

4.3.5.7 Naval Supervising Activity (NSA)/Supervisor of Shipbuilding, Conversion and Repair, USN (SUPSHIP)

a. Serve as the Navy’s on-site technical representative for ensuring contract requirements are met.

b. Monitor the contractor's progress in achieving PTD schedules established in contracts for shipbuilding, conversion, overhaul, or repair.

c. Attend provisioning conferences.

d. Expedite shipment of PTD to the TSA.

e. Prepare reports to the NAVSEA PM indicating problems and delinquencies in achieving supply readiness for ships under construction, conversion, overhaul, or repair.

f. Ensure the configuration data base is maintained to monitor the status of provisioning for new construction ships. Provide reports to the appropriate NAVSEA PM and cite any delinquent provisioning actions.

g. Participate as member of IPTs as required.

4.3.5.8 Shipbuilder

a. Purchase or develop provisioning information in accordance with contract requirements.

b. Serve as member of IPTs as required.

c. Submit provisioning to the government as required.

d. Attend and/or host provisioning conferences as required.

e. Participate as member of IPTs as required.

4.3.5.9 Naval Inventory Control Point (NAVICP)

a. Provide Provisioning Contract Control Numbers (PCCNs) to the provisioning submitter(s).

b. Load WSF data files.

c. Establish wholesale/retail system stock, as applicable

d. Coordinate NSN assignment.

e. Perform FLIS screening.

f. Perform supply management coding.

g. Assign RICs as requested by the TSA.

h. Produce allowance lists.

i. Participate as member of IPTs as required.

j. Attend provisioning conferences.

4.3.5.10 Manufacturer

a. Develop PTD for the system or equipment and deliver to the government in accordance with the contract.

b. Include the same provisioning information requirements established by the government into vendor/subcontractor contracts.

c. Submit provisioning data to the TSA as required.

d. Host provisioning conferences as required.

e. Participate as member of IPTs as required.

4.4.0 Provisioning Technical Documentation (PTD) Process

To fully describe the provisioning process and the flow of PTD, it will be useful to better explain the difference between Government Furnished Equipment (GFE) and Contractor Furnished Equipment (CFE).

The Navy contracts with a shipbuilder to build a ship according to certain specifications, and much of the equipment installed onboard the ship is bought by the shipbuilder from marine equipment manufacturers across the United States. This is Contractor Furnished Equipment (CFE), also referred to as Locally Procured Equipment. Most CFE, such as pumps, motors, electrical

cables and so on, is known as Hull, Mechanical and Electrical equipment or HM&E. In addition, the Navy has some specially made equipment, mostly electronics and ordnance, installed onboard its ships. These are Government Furnished Equipment (GFE) identified by Schedule A of the shipbuilding contract and purchased with separate contracts with their own provisioning requirements. GFE can be anything from radio sets to weapon systems. The GFE must arrive at the shipbuilder at the proper time, and the design information must be correct so that the GFE will fit and function correctly onboard the ship and interface, as appropriate, with the shipbuilder's CFE equipment.

NAVSEA Program Managers will submit Program Support Data (PSD) sheets for each hardware acquisition involving Government Furnished Equipment (GFE). In addition, PSD sheets will be submitted on Contractor Furnished Equipment (CFE) that have been designated mission critical or require spares costing more than $100K per year as determined by the NAVSEA PM and NAVICP. The Program Support Data Automated Reporting and Tracking System (PARTS) data base will be used in the preparation of the PSD sheets. PSD sheets will support the budgeting and requirements determination process for initial, interim and follow-on spare and repair parts.

Because these two types of equipment are bought differently, their provisioning processes and the players involved are also different.

4.4.1 CFE Provisioning Flow

The following paragraphs explain the flow of Provisioning Technical Documentation (PTD) for CFE.

a. The NAVICP provides the shipbuilder or naval/commercial shipyard with a list of Provisioning Contract Control Numbers (PCCNs). These PCCNs are used to identify each PTD package and track it throughout the provisioning process. These PCCNs are presented by NAVICP to the shipbuilder or naval/commercial shipyard in a block of numbers at the provisioning Guidance Conference (PGC). During the provisioning process, the shipbuilder or naval/commercial shipyard assigns a PCCN to each PTD package before the package is submitted.

b1. For New Construction: Once the contract is awarded, the shipbuilder is required to provide the provisioning data according to the contract, including passing those data requirements to vendors from whom the shipbuilder buys equipment.

b1(a). The equipment vendors supply the provisioning information to the shipbuilder.

b1(b). The shipbuilder consolidates the provisioning data, identifies each package by assigning a PCCN, and enters the data into ICAPS or ICAPS compatible format. If the vendor has submitted the data to the shipbuilder in ICAPS, then this step has already been completed. Some shipbuilders hire subcontractors to perform this work and provide it to the shipbuilder.

b2. For Overhaul/Availabilities: The shipyard is required to provide the provisioning data for all CFE modernization and/or emergent work.

b2(a). The equipment vendors supply the provisioning information to the shipyard.

b2(b). The shipyard consolidates the provisioning data, identifies each package by assigning a PCCN, and enters it in ICAPS-compatible format. If the vendor has submitted the data to the shipyard in ICAPS, then this step has already been completed. Some shipyards hire subcontractors to perform this work.

c. The shipbuilder or naval/commercial shipyard passes the provisioning data to the TSA with a copy of the transmittal letter to the NSA. However, in some contracts the NSA receives the packages, records the PCCN in order to track the progress of the provisioning work, and then passes the data to the TSA.

d. The TSA receives the data and determines APL-Worthiness. If the data is APL-Worthy the TSA will accept or reject the data based on, but not limited to, the CDRLs and adequacy of the PTD. If the data is accepted, the TSA verifies and/or assigns technical coding and submits the data to NAVICP via ICAPS C/S for further processing.

e. When NAVICP receives the PTD packages, they record the PCCN for tracking purposes and then route the packages to the NAVICP provisioning departments responsible for the type of equipment involved. Once the PTD package is previewed by NAVICP, an APL number is assigned and the submitter is notified via the TSA. NAVICP then processes the HM&E PTD packages by reviewing the PTD for adequacy, resolving concerns with the TSA, assigning supply management coding and loading various provisioning data files in the WSF.

f. Once the data files are loaded, the APL is complete. At this point, a Provisioning Parts List Index (PPLI) may be ran in ICAPS C/S to be used as an R060. The TSA will use the PPLI (R060) to validate the provisioning decisions.

g. The shipbuilder or naval/commercial shipyard enters the APL in the configuration data base that is being developed for the ship.

4.4.2 GFE Provisioning Flow

The flow for the GFE provisioning process is similar to the flow for CFE provisioning - with a few important differences. The following paragraphs will explain the flow.

a. The Contractor prepares the provisioning data for the GFE. If ICAPS is not being used for data development, GFE Contractors must submit their PTD in ICAPS-compatible format as described in the PMG (Appendix A of this chapter). The Contractor forwards the data to the TSA.

b. The TSA receives the data provided by the equipment contractor and determines APL-Worthiness. If the data is APL-Worthy the TSA will accept or reject the data based on, but not limited to, the CDRLs and adequacy of the PTD. If the data is accepted, the TSA verifies and/or assigns technical coding and submits the data to NAVICP via ICAPS C/S for further processing.

c. When NAVICP receives the PTD packages, they record the PCCN for tracking purposes and then route the packages to the NAVICP provisioning departments responsible for the type of equipment involved. Once the PTD package is previewed by NAVICP, a Repairable Identification Code (RIC) is assigned in ICAPS C/S and the submitter is notified via the TSA. NAVICP then processes the PTD packages by reviewing the PTD for supply management cataloging adequacy, resolving concerns with the TSA, assigning supply management coding and loading various provisioning data files in the WSF.

d. Once the data files are loaded, the APL is complete. At this point, a Provisioning Parts List Index (PPLI) may be ran in ICAPS C/S to be used as an R060. The TSA uses the PPLI (R060) to validate the provisioning decisions.

e. The NAVSEA TSA ensures the updated APL is provided to the appropriate activity to update ship’s configuration data base.

4.4.3 Preliminary Allowance List (PAL) Process

In the past, the Naval Inventory Control Point (NAVICP) was not involved in the acquisition of ship systems and equipment until after the Material Support Date (MSD). Historically, NAVICP was involved late in the acquisition cycle or PTD was delivered too late to develop an APL in time for sailaway. This resulted in numerous negative impacts to the Navy. PALs can be used to correct these impacts. PALs will:

(1) facilitate shipboard use because they are compatible with SNAP;

(2) allow collection of demand data;

(3) reduce the investment in unneeded spares with consistent use of Navy-approved sparing models.

In conjunction with the "PAL" concept, NAVICP supports all existing stock numbered Navy managed Depot Level Repairables (DLRs) regardless of whether a system or equipment has reached its MSD. MSD is the date in which supply support is in place for a system or equipment. This means MSDs can be accelerated.

The source data for the preparation of PALs is preliminary PTD in the form of Interim Support Items List (ISIL). The ISIL and subsequent PAL contains all the data necessary for the generation of COSAL and SNAP II allowances. See Appendix I for minimum data requirements for loading the WSF for PAL development. PALs are developed by processing the ISIL through ICAPS by the TSA or ISEA. This data is transferred by the TSA via ICAPS C/S to NAVICP. NAVICP will perform Federal Logistic Information System (FLIS) screening once the data is received. The data is then loaded into the Weapon Systems File (WSF), which creates the PAL. The PAL will be developed within 30 days of delivery of the data. Figure 4-1 provides a flow diagram of the PAL development process.

The process depicted in Figure 4-1 will be followed to develop a PAL.

The following timeframes should be used as a benchmark as to when the PAL process should be started for New Construction Programs, Availability/Overhaul Programs, and approved alterations and equipment installations on operational ships. Deviations from these timeframes must be closely coordinated with the TSA and NAVICP, or problems will occur.

(1) for New Construction Programs, PAL development should begin at six (6) months before Estimated Delivery Date (EDD minus 6),

(2) for Availability/Overhaul Programs, PAL development should begin at six (6) months before Start of Availability (SOA minus 6), or

(3) for approved alterations and equipment installations on operational ships, PAL development should start six (6) months before First Installation.

However, the PAL process for HM&E equipment should not start until three (3) months before EDD, SOA, or First Installation.

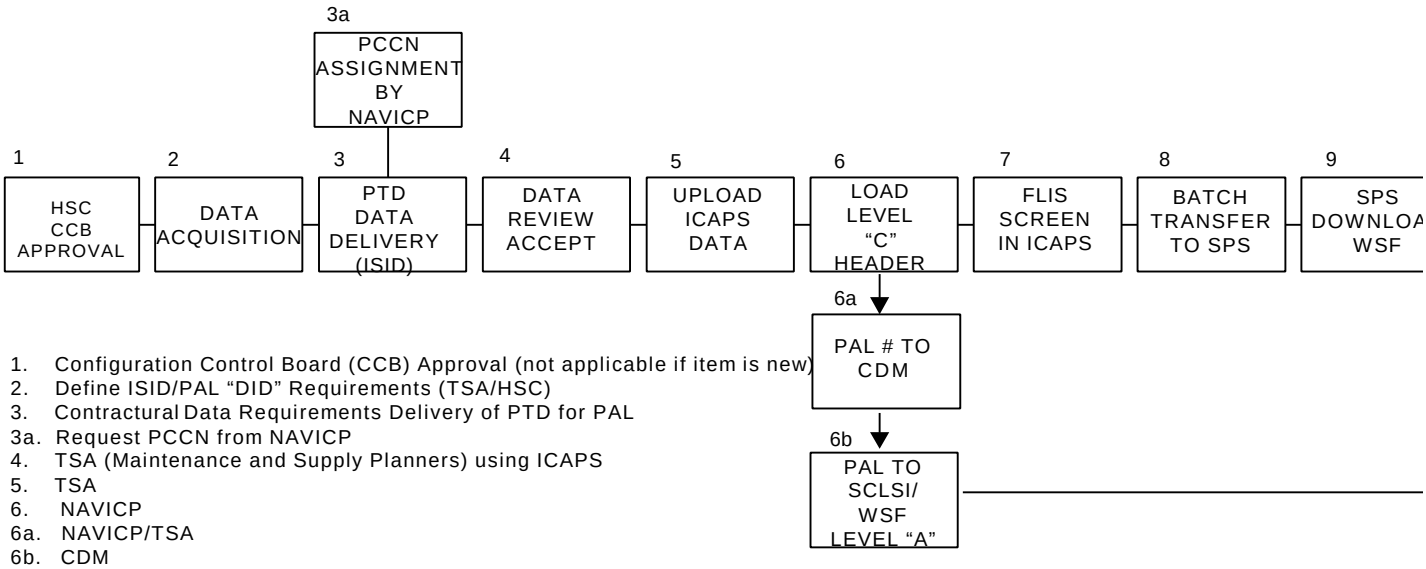
PAL packages will be completed within the following processing times:

(1) TSAs will process PAL packages within 15 days after receipt.

(2) NAVICP will process PAL packages within 30 days after receipt.

Sparing requirements for Onboard Repair Parts (OBRPs) and follow-on support spares will be determined by using only Navy approved sparing computation models. Standard items will be supported by the FSS. Only non-standard items will be supported by ISS methods.

PAL DEVELOPMENT PROCESS



1. Configuration Control Board (CCB) Approval (not applicable if item is new)
2. Define ISID/PAL "DID" Requirements (TSA/HSC)
3. Contractural Data Requirements Delivery of PTD for PAL
3a. Request PCCN from NAVICP
4. TSA (Maintenance and Supply Planners) using ICAPS
5. TSA
6. NAVICP
6a. NAVICP/TSA
6b. CDM
7. NAVICP
8. NAVICP
9. NAVICP
10. NAVICP
10a. TSA (NAVICP to provide hard copy PAL for review)
11. Final product (TSA/NAVICP approved)
11a. As required until APL developed (TSA/NAVICP)
11b. TSA distribution of PAL for ALT (all types) and SCN planners
12. NAVICP
13. Final destinations of PAL data

NOTE to TSAs: Continue to follow up with Prime Contractors to ensure remaining PTD is delivered. Once remaining PTD is delivered, coordinate with NAVICP to have PALs superseded by APLS.

Figure 4-1

4.4.4 PAL Development Responsibilities

4.4.4.1 NAVSEA Program Managers (PMs)

a. Ensure contractual requirements for ISIL are invoked in the prime contract. Contractual requirements for ISS PTD are contained in the NAVSEA Program Manager Guide (see Appendix A). Other ISS contractual requirements, if applicable, are contained in PAFOS Chapter 5.

b. Ensure data required to develop a PAL is delivered to the TSA in time to provide weapon system support at Preliminary Operational Capability (POC).

c. Provide a preliminary maintenance philosophy to the TSA.

d. Budget for Supply Support requirements.

e. Provide funding, if required, for IRPs.

f. Identify a Source of Supply (SOS) and establish via Naval Supply Systems Command (NAVSUP) an appropriate Routing Identifier Code (RIC).

g. Identify Interim Designated Overhaul Point (DOP) for the system or equipment per NAVSEA Depot Certification Handbook.

h. Coordinate with NAVICP early in the acquisition process to accelerate MSD.

4.4.4.2 NAVSEA Technical Support Activity

a. Assist the PM in developing the Request for Procurement (RFP) and Statement of Work.

b. Provide technical guidance to the prime contractor for the development of the ISIL.

c. Process the ISIL through ICAPS C/S. Data requirements are specified in Appendix A. The TSA will review, approve, or disapprove data where the prime contractor provides all technical coding. In cases where the prime contractor does not provide technical coding, the TSA will generate this data.

d. Release completed ICAPS C/S package to NAVICP. Utilize a "P" in the first position of the Provisioning Contract

Control Number (PCCN), versus the normally used "N", in order to designate the package as a PAL.

e. Ensure that the ICAPS C/S package is completed in time to support the POC of the weapon system. (Nominally, at least 2 months prior to POC.)

f. Coordinate with the Supervisor of Shipbuilding, Conversion and Repair (SUPSHIP), Planning Yard, or Configuration Data Manager (CDM) to ensure that the PAL is reflected in the Ship Configuration and Logistic Support Information (SCLSI) database to support SNAP/COSAL schedules.

g. Review and validate the completed PAL.

4.4.4.3 Naval Sea Logistics Center

a. Ensure ICAPS-PC Windows and ICAPS C/S reflect all current NAVSEA policy, and all required data elements are present with accurate validations.

b. Ensure the PAL autoload process is working correctly, and coordinate with NAVICP to maintain files load for PALs via ICAPS C/S.

4.4.4.4 Naval Inventory Control Point

a. Perform FLIS screening on all provisioning packages.

b. Identify non-standard items of supply on APLs or PALs with a "0" COG NICN.

c. Coordinate with Naval Sea Logistics Center (NAVSEALOGCEN) to maintain files load for PALs via ICAPS C/S. Review stock status for existing NSNs and initiate buys to support any increased requirements.

d. Perform ICAPS C/S review with TSA and load the WSF.

e. Ensure Level C of the WSF is loaded within 30 days of receipt.

f. Issue the PAL.

g. Replace PAL data with APL data, upon completion of the formal provisioning process, retaining the same Repairable

Identification Code (RIC) number. Replace 0 COG NICNs with NSNs after material has been redistributed to the supply system.

h. Perform PAL reviews and complete files maintenance, as required.

4.4.5 Advance RIC Process

The Advance RIC process shall be implemented for New Construction programs, Overhaul/Availability ships, and first time installation of approved Alterations and Engineering Change Proposals (ECPs). While the Advance RIC process does not eliminate the need to develop Allowance Appendix Pages (AAPs), the procedure will allow the AAP and the equipment it represents to be identified with an actual Repairable Identification Code (RIC) in the ship's configuration file as opposed to a pseudo RIC which has been used in the past. This will allow ships to receive identification of piece part requirements via Automated Shore Interface (ASI) for SNAP ships, and Automated Monthly COSAL Maintenance Action Report (Auto-MCMAR) for non-SNAP ships as the final provisioning process is completed and the APL is generated.

Advance RIC requests will be submitted to NAVICP in accordance with the requirements specified below and the Component Identification Data requirements specified in the NAVSEA Program Manager Guide (see Appendix A). The NSA/SUPSHIP shall complete the data requirements for Component Identification Data (CID). The following additional information will be provided in the Characteristics Data field:

a. Advance RIC Number Requested By: (Person's Name)
b. Command or Activity
c. Date Advance RIC Requested
d. Scheduled Date When Complete PTD Will Be Provided To TSA
e. Applicable System/Function (if known)

This reflects the minimum data requirements needed to request an Advance RIC. The specific delivery media will be determined at the Provisioning Guidance Conference (PGC). The Advance RIC request data will be sent by the SUPSHIP for New Construction and by the NSA for availability/overhaul to the TSA. The TSA will submit the data via ICAPS C/S to the appropriate NAVICP code. An Advance RIC number will be assigned within seven (7) days of the request. NAVICP will assign a Logistic Support Status Code (LSSC) of "MD" and distribute the Advance RIC number by FAX or email to the TSA/NSA/SUPSHIP. Within one working day, the NSA/SUPSHIP will pass the Advance RIC number to the Contractor for new construction, and to the Configuration Data Manager (CDM) for overhauls and availabilities. The SUPSHIP/NSA

will direct the Contractor to update all configuration files and identify the Advance RIC number on all future submittals of provisioning data for that item.

The following information is provided as a guide for the assignment of Advance RICs for each type of program:

a. New Construction Programs: Provisioning efforts will continue to focus on developing APLs up to six months prior to ship delivery (EDD-6 months). At EDD-6 months, the PAL procedures will be used until EDD-2 months, at which time the Advance RIC procedures will be used for all equipment that will not have a PAL developed prior to ship delivery. The SPM, TSA, and NAVICP should agree on specific dates in order to achieve program specific needs.

b. Availability/Overhaul Programs: Provisioning efforts will continue to focus on developing APLs up to six months prior to Start of Availability (SOA-6 months). At SOA-6 months, the PAL procedures will be used until SOA-2 months, at which time the Advance RIC procedures will be used for all equipment that will not have a PAL developed prior to SOA. The SPM, TSA, and NAVICP should agree on specific dates in order to achieve program specific needs.

c. Approved Alterations and ECPs: Provisioning efforts will continue to focus on developing APLs up to six (6) months prior to First Installation. At First Installation minus 6 months, the PAL procedures will be used until First Installation minus two (2) months, at which time the Advance RIC procedures will be used for all equipment that will not have a PAL developed prior to First Installation. The SPM, TSA, and NAVICP should agree on specific dates in order to achieve program specific needs.

4.4.6 Commercial and Non-Developmental Items (CaNDI)

Today, more system designs are incorporating CaNDI items in an attempt to:

- Reduce total ownership costs,
- Eliminate or reduce government R&D,
- Apply of state-of-the-industry technology to current requirements,
- Reduce technical, cost, schedule and performance risks,
- Access commercial distribution networks,
- Join the larger commercial/public market.

However, the use of CaNDI for shipboard applications creates a new set of allowance documentation development and supply support challenges for the provisioner. Appendix H provides guidance to assist the provisioner with making allowance documentation development decisions for CaNDI.

4.4.7 Maintenance Assistance Modules (MAMs) Provisioning Policy

Navy Provisioning Policy requires that the Interactive Computer Aided Provisioning System Client-Server (ICAPS C/S) be used as the sole method for the transmission, processing and tracking of all new and revised provisioning data. This policy was established by the NAVSEA/Naval Supply Systems Command (NAVSUP) MAMs Inventory Tools Working Group in response to the issues identified by the Fleet. This policy was endorsed by the Provisioning Center of Excellence (PCOE) which is made up of representatives from all Systems Commands (SYSCOMs), In Service Engineering Activities (ISEAs)/Technical Support Activities (TSAs), Naval Inventory Control Point (NAVICP) and NAVSUP.

Research into MAMs allowance discrepancies identified broader provisioning concerns such as the lack of a standard method for transmitting, processing and tracking provisioning data. The establishment of Navy Provisioning Policy which requires ICAPS C/S as the Navy standard method of transmitting, processing and tracking new and revised provisioning data resolves those situations. ICAPS C/S is the only authorized method of updating the key technical data elements. If any of these data elements change, the ISEA/TSA will be automatically notified via ICAPS C/S, and the project will not pass to the WSF until the ISEA/TSA approves the change(s). This process ensures that the coding assigned to the key technical data elements by the ISEAs/TSAs will be loaded to the WSF and made available for allowance computation and SNAP update. The key technical data elements monitored by ICAPS C/S are:

- Allowance Note Code (ANC)
- Allowance Factor Code (AFC) and AFC Qty
- Allowance Override Code and AOR Qty
- Demilitarization Code
- Essentiality Code (EC)
- Minimum Replacement Unit (MRU)
- Source, Maintenance and Recoverability Code (SMR)
- Technical Replacement Factor (TRF)

ICAPS C/S also provides the ISEAs/TSAs and NAVICP with the capability to produce a Provisioning APL Report at any time in

the provisioning process which allows the user to preview the allowances generated as a result of the coding of the key technical data elements. Section 4.8.6 provides general MAMs provisioning guidance for systems/equipment, as well as provisioning guidance for unique situations and brokered/embedded equipment.

4.4.8 Streamlining the Provisioning Process

The provisioning process is a complex and involved one. In hopes of streamlining the process and making it more efficient, the entire process was examined as a result of a Total Quality Leadership (TQL) effort beginning in January 1989. The results of that examination are a number of innovations to improve the way provisioning is accomplished in the Navy. Some of these process improvements have been updated based on Acquisition Reform initiatives.

4.4.8.1 The Provisioning Team

One of the innovations used to improve the provisioning process is the use of a Provisioning Team. This group is made up of representatives from the Acquisition Program Manager's office (the PM or SPM), the TSA, and NAVICP. The group is formed prior to RFP release with the purpose of exchanging information with the program designated Integrated Product Teams (IPTs) in determining the program's specific provisioning and supply support contractual requirements. The manufacturer/shipbuilder should also participate in this group as soon as possible after contract award. The group ensures that other streamlining techniques are used so that provisioning is completed efficiently and on time. This approach allows the TSA and NAVICP to be involved with decisions made early on in the acquisition process which will later affect the overall process of provisioning.

4.4.8.2 The Provisioning Center of Excellence

The Provisioning Center of Excellence (PCOE) has been formed to provide provisioning assistance, monitor provisioning problems and current trends in provisioning, and assess the impact of changes made to the process and changes in guidance from higher authority. The PCOE assists the Provisioning Teams with problem solving and recommendations to improve the provisioning efforts. The PCOE membership consists of NAVSEA, NAVSUP, ISEA, and NAVICP representatives. A complete list of current members can be obtained from http://nslc.fmso.navy.mil/pcoe/pcoedir.htm

4.4.8.3 Concurrent Provisioning

The LMI Performance Specification (MIL-PRF-49506) allows the Contractor to use any data base the Contractor may choose to develop the PTD. Concurrent provisioning may be accomplished only if the Contractor chooses to use ICAPS C/S to develop the PTD, or allows the government unlimited access to their database to allow *all* coding to be accomplished by *all* government activities.

Past methods for completing provisioning work involved passing the provisioning data sequentially from one activity to the next. In other words, the manufacturer developed the PTD, submitted it to the TSA, and when the TSA had completed its technical coding, the PTD was sent to the NAVICP for supply coding and APL assignment.

Traditionally the government received PTD in the form of hard-copy drawings and lists. This meant that if the TSA discovered a technical error in the data, the entire PTD package might be returned to the manufacturer for revision or correction. The same thing might also happen if NAVICP discovered a problem with the package later, after the TSA-discovered error had been corrected. The package might be returned to the manufacturer a second time. The result is many lost days of provisioning time.

Concurrent Provisioning eliminates this type of delay. In its simplest form, Concurrent Provisioning means parallel rather than sequential provisioning. In other words, rather than passing PTD from manufacturer to TSA to NAVICP, the PTD may be processed by all three activities at nearly the same time. In order for this to happen ICAPS C/S must be used. (For more information on ICAPS-PC Windows and ICAPS C/S see Section 4.6 of this chapter). By using ICAPS C/S, all three activities have access to the PTD information and can be applying their coding at the same time. In addition, ICAPS C/S has the capability to edit certain types of data errors so that some of the simpler causes of PTD rejection and revision can be corrected by the manufacturer rather than waiting for the TSA or NAVICP to discover them. By allowing all three activities - the Contractor, the TSA, and NAVICP - to access the provisioning data base at the same time, each providing or verifying the information for which they are responsible, a significant amount of time can be saved in completing the provisioning process.

Contractual documents must contain the correct requirements in order to perform concurrent provisioning. See PMG for contractual requirements. Making use of ICAPS C/S, providing digital drawings and buying a provisioning data base rather than lists are examples of contractual requirements that help implement concurrent provisioning.

4.4.8.4 Incremental Processing of PTD

Another benefit of the provisioning streamlining concept is incremental processing of PTD. Incremental processing of PTD basically means that portions of a PTD package can be worked by other Provisioning Team members as they are completed rather than waiting for the total package to be completed. This is particularly useful for large, complex equipment or systems. Instead of waiting until the PTD for the entire system is developed, the manufacturer can submit parts of it as they are completed. To be most effective, the incremental submission should include the items to be maintained at the organizational level first and the intermediate and depot levels later. This allows all the items that will be onboard the ship to be provisioned first since these will be most important to the sailors who will be maintaining the equipment. Additionally, incremental PTD submission should be used on equipment which is design stable. That is, if the equipment design is likely to change, it is not a good idea to process the provisioning information until the physical configuration baseline has been established.

4.4.8.5 Supportability Analysis Summaries

The principal focus of the LMI Performance Specification (MIL-PRF-49506) is on providing a contractual method for acquiring support and support related engineering data. This data is used in-house in existing DOD materiel management automated systems such as those for initial provisioning, cataloging, and item management.

The summaries consist of information required for the Program Manager to conduct logistics planning and analysis, influence program decisions, assess design status, and verify Contractor performance. Content of the summaries should be specified on Supportability Analysis Summaries Worksheets found in MIL-PRF-49506. The individual requirements should be taken into consideration when requesting these types of summaries. These summaries can be delivered as stand-alone reports or as an integral part of other systems engineering documentation. Requirements for these summaries shall be coordinated with data requirements of other program functional elements to minimize redundancies and inconsistencies. Specific content of each summary will be specified in the contract. Examples are provided in the LMI Performance Specification. The Government and Contractor should hold open dialogues to establish a format which both can use. Contractor format is acceptable when approved by the government.

4.4.8.6 Results of Provisioning Streamlining Efforts

By incorporating the streamlining methods described above, the results are more accurate provisioning and reduced provisioning time. Also, these innovative procedures can reduce the need for Interim Supply Support, which is much more costly than traditional Navy supply support.

Even with the efforts to streamline the provisioning process, it remains relatively complex. The NAVSEA Program Manager Guide helps the acquisition program managers to include the correct provisioning requirements in their contracts. The different sections of the contract (Statement of Work, Contract Data Requirement Lists, and Data Item Descriptions (See Appendix A)) specify the requirements the Contractors must fulfill. However, to fully complete the provisioning process the Navy and its Contractors must further clarify the requirements stated in these documents and monitor the progress of the provisioning actions once they have begun. To do this a variety of conferences can be held. In addition, three methods for completing the provisioning process can be used.

4.4.9 Provisioning Methods

There are three provisioning methods which are normally used to complete the provisioning process. Each has its merits and limitations. There are several factors that must be considered when choosing the provisioning method. The best method for a given equipment or system depends on the IPT structure, the physical location of the Program Manager and the Contractor, the system or equipment’s design, size, maintenance concept, and special parts requirements. Whichever method is chosen, the communication and exchange of information with the IPT(s) cannot be overemphasized. Traditionally, the methods described below have met a specific locations. However, with advances in technology communication can be accomplished by email, chatrooms, video teleconference, etc. The following subparagraphs provide a brief description of each of these three provisioning methods.

4.4.9.1 Resident Provisioning Team Method

In the past the Resident Provisioning Team Method was seldom used for Navy provisioning. However, with Acquisition Reform initiatives and the implementation of IPTs, this may become a more popular provisioning method. This method establishes a Provisioning Team that is permanently assigned at a Contractor's facility. This team can then be assisted by specialists on a temporary basis if workload demands require additional help or if specialized equipment and material experience is needed.

4.4.9.2 Conference Team Method

The Conference Team Method establishes a government team made up of members skilled in areas such as Source, Maintenance and Recoverability coding, requirements determination, and cataloging. Conferences are normally held at the Contractor's facility. The conference team provisioning method is used most frequently for GFE contracts rather than shipbuilding contracts. However, in the case of some highly complex HM&E equipment, this method could be used for CFE in shipbuilding contracts. The Government Accelerated Provisioning (GAP) Process utilized by NAVICP is an example of the Conference Team Method.

4.4.9.3 In-House Provisioning Method

With this method of provisioning, the members of the provisioning team perform provisioning responsibilities at their respective activities. This method can accommodate submission of data in a variety of media. Traditionally, hard copy data was sequentially passed from contractor to TSA and then to NAVICP, with each activity adding its input. This process is greatly enhanced by utilizing ICAPS-PC Windows and ICAPS C/S for data development and submission. The functions are still performed in house but the data can be transmitted electronically. By utilizing ICAPS C/S, these functions can be completed concurrently, thereby reducing the time required to sequentially process the data.

4.4.10 Provisioning Conferences

Conferences are used during the provisioning process to clarify the contract's provisioning requirements and to discuss a variety of issues during the course of the provisioning process.

4.4.10.1 Provisioning Guidance Conference

The purpose of the Provisioning Guidance Conference (PGC) is to bring the government acquisition manager (the SPM for shipbuilding contracts, the PM for GFE contracts) and the Contractor together in order to ensure understanding of the contractual provisioning data requirements. A PGC is usually held 60 to 90 days after Contract Award Date (CAD). The topics discussed at a PGC might include maintenance concepts, provisioning techniques, item identification, design changes, and delivery schedules. The results of the meeting might include the establishment of tasks, provisioning milestones and submission schedules, and firm commitments for optional requirements.

4.4.10.2 Preparedness Review Conference

A Preparedness Review Conference is optional because it is usually required only for Contractors who have had no previous experience with the provisioning process. The purpose of this conference is to determine if the Contractor will be prepared for an upcoming Provisioning Conference (See section 4.4.9.3). At a Preparedness Review Conference, representatives from the TSA, the vendor, and NAVICP will discuss what will be required for an efficient Provisioning Conference.

4.4.10.3 Provisioning Conference

The Provisioning Conference gives the Navy and the Contractor personnel the opportunity to meet and discuss the specific requirements and data needed to make the technical and supply decisions which are part of the provisioning process. Some of these provisioning decisions will actually be made during the provisioning conference. At a provisioning conference the Program Office, the Contractor's technical people, the Provisioning Team (usually comprised of TSA and NAVICP personnel at a minimum) meets to review the drawings and provisioning data. In addition, the acquisition office's logistics representative and ILS manager may also attend. For GFE, the equipment is usually available. As a group they will discuss all the information and assign the proper technical and supply coding at the conference.

4.4.10.4 General Conference

A General Conference may be requested by anyone involved in the provisioning process and may be held at any time during the process as needed. It can be used to discuss problems or to answer questions. It can be used to discuss the progress of the provisioning efforts or to determine if any other conferences, such as a Long Lead Time Item Conference or Interim Supply Support Items Conference, might be needed.

4.4.10.5 Long Lead Time Items Conference

A Long Lead Time Items Conference is held in order to determine which parts of an equipment might require an extended time period for manufacturing. These Long Lead Time Items might become problems if the equipment will be installed onboard a ship before the manufacturer has the time to produce the parts needed to support the equipment. Therefore, a Long Lead Time Item Conference should be held to identify these potential problems in time to start the production process so that the parts will be

available when the equipment is required to become operational. Long Lead Time Items Data (LLTID) may be a requirement specified on the LMI Worksheet.

4.4.10.6 Interim Support Item Conference

If interim support is required, an Interim Support Item Conference may be held to determine how Interim Support will be accomplished. The conference is chaired by the ISEA/TSA under the approval of the Program Manager. The results of the meeting are Interim Support Items List (ISIL) and clarified responsibilities. (For more information on Interim Supply Support see Chapter 5 of the PAFOS manual).

4.5.0 Provisioning Data Product Deliverables

The Acquisition Manager must direct the equipment or shipbuilding Contractor to furnish Provisioning Technical Documentation (PTD). The Acquisition Manager uses the LMI Worksheet to specify the required Provisioning Data Products (i.e., data elements). These Provisioning Data Products are required to "produce" specific Data Product Deliverables. These were traditionally delivered in the form of hard copy "lists", however, this is no longer economically feasible. Specific Data Product Deliverables are described in the following subparagraphs.

4.5.1 Provisioning Parts List (PPL)

The PPL is the most important provisioning data. Its purpose is to portray the physical composition of the equipment. PPL is submitted for configuration worthy equipment that the maintenance planning documentation determined is repairable. This data should contain all parts subject to wear or failure and other items required for maintenance throughout the life cycle of the equipment. A PPL describes the parts in the equipment in some logical order, such as top-down breakdown or circuit symbol number sequence. For each part, the PPL will show information such as the part number, part name, quantity of the part in the equipment, unit price, and other specified data. The PPL is the basic document used in the provisioning process on which to record the various technical decisions. The PPL is used to build Allowance Parts Lists (APLs).

4.5.2 Long Lead Time Items List (LLTIL)

The LLTIL is used to provide early notice that certain parts require long manufacturing lead-time or are affected by limited

production capacity and should be placed on order prior to the normal provisioning process. Therefore, the LLTIL must be delivered in advance of other data.

4.5.3 Interim Support Items List (ISIL)

The ISIL is "preliminary PPL" and is used to select parts which may be required for interim support if normal provisioning cannot be completed in time to have the material available when the equipment first becomes operational. The ISIL is a best guess of the organizational level items which will be chosen for stocking when the provisioning process is completed. An ISIL may be used to develop a Preliminary Allowance List (PAL). The PAL allowance quantities are computed using the Navy's approved allowance models.

4.5.4 Tools and Test Equipment List (TTEL)

The TTEL consists of support items (e.g. alignment tools, test sets) that are not an integral part of the end item but are used to inspect, test, calibrate, service, or repair an end item. This is also referred to as Support and Test Equipment Data.

4.5.5 System Configuration Provisioning List (SCPL)

The SCPL establishes family-tree relationships for units of the equipment when the PPL is prepared at the unit level. An example of such a unit would be a refrigeration system. This system consists of many components which are APL-worthy, for example compressor, motor, coupling, AC controller etc. Also, the SCPL consists of parts used to combine the units into an end item. The data can contain the configuration items for a complete system. This provisioning data can be used to check configuration integrity.

4.5.6 Design Change Notice (DCN)

The DCN provides change pages and changes to PTD based on approved changes to the equipment configuration. The DCN requires basically the same information as required for the PPL. A DCN can be used to provision machine alteration and field change APLs. A DCN is used to provision an end item that has already been received and approved by the government.

4.5.7 Ship Level Provisioning Parts List (SLPPL)

The SLPPL contains shipboard installed units which are not readily associated to specific equipment. It is only used in contracts for construction, modernization, and availabilities of

ships or service craft. SLPPL is used to build miscellaneous parts lists known as “89000” series APLs. Typically these items are on a miscellaneous parts list and include end item NSNs with no piece part support. Examples include switches, gages, and windows. If the end item fails, the item is replaced. These APLs (“89000” series) are unique to each ship. There are typically nine “89000” series APLs per ship, based on the Ship Work Breakdown Structure (SWBS):

100 Hull Structure
200 Propulsion Plant
300 Electric Plant
400 Command & Structure
500 Auxiliary Systems
600 Outfit and Furnishing
700 Armament
800 Integration Engineering
900 Ship Assembly & Support Services

4.5.8 Engineering Data For Provisioning (EDFP)

Even though submitted as part of the initial support data, EDFP is really used for life-cycle support. It must be adequate to identify, catalogue, and procure each part in the end item and their relationship to other parts in an equipment. If industry specifications or standards do not completely identify the item, the Contractor may furnish engineering drawings, sketches, photographs, or concise descriptive characteristics.

EDFP may include any or all of the following:

- government or industry specifications or standards;
- engineering drawings at least equal to military Specification MIL-DTL-31000;
- Production Drawings and Associated Lists for drawings developed at government expense and Commercial Drawings and Associated Lists for drawings not developed at government expense;
- commercial catalogs or catalog descriptions; and
- sketches or photographs with brief descriptions of dimensional, material, mechanical, electrical and other descriptive characteristics.

EDFP also includes the appropriate assembly and general arrangement drawings, schematic wiring, and cabling diagrams, etc., necessary to indicate the location and function of support items in the end item. Military Specification MIL-DTL-31000 supersedes DoD-D-1000D. However, some existing contracts still use DoD-D-1000.

As a minimum, EDFP must be capable of providing for:

- Technical identification of items for maintenance support considerations;
- Preparation of item identifications for the purpose of assigning National Stock Numbers;
- Review for item entry control;
- Standardization;
- Review for potential interchangeability and substitutability;
- Item management coding;
- Preparation of allowance lists;
- Initial procurement from the Contractor or original manufacturer;
- Acquisition Method; and,
- Acquisition Method Suffix Code.

4.5.9 Component Identification Data (CID)

The Contractor is required to use CID to submit identification data for all systems and equipment. CID shall be delivered concurrently with every submittal of Data Product Deliverable. The Contractor shall use CID for submittal of Provisioning Header Data, Statement of Prior Submission (SPS), and Advance RIC requests. See the NAVSEA Program Manager Guide (Appendix A) for specific data, format and media requirements for CID.

4.5.9.1 Provisioning Header Data

The Contractor shall provide header data for each PCCN with each provisioning project. The data shall provide the Navy sufficient end item information to identify the system or equipment, the applicable contract, and the planned installations. See Appendix A for specific requirements.

4.5.9.2 Statement Of Prior Submission (SPS)

An SPS is a certification submitted by the contractor in lieu of PTD whenever PTD which may meet the requirements of the contract has previously been furnished to the government. The Contractor shall use CID to submit an SPS (formerly provided using the NAVSEA Cover Page (NAVSEA Form 4423/3) for CFE or a hard copy letter for GFE). The SPS shall apply to the end item, or to any component thereof, and it shall provide total identification of the system, equipment or component. By submitting an SPS, the contractor certifies all of the following:

- PTD which may satisfy the requirements of the contract has previously been furnished to the Government for the system, equipment or component being procured.
- The required maintenance philosophy is fully supported.
- All replacement parts are 100% identical to those provided by the previously furnished PTD.

If there are maintenance philosophy/part differences, an SPS with Differences shall be submitted as a DCN with supporting EDFP which identifies the differences. The government shall reject an SPS if it does not meet both the data and certification requirements of the contract. If an SPS is rejected, the contractor shall be required to submit a new provisioning package. See Appendix A for specific requirements.

4.5.9.3 Advance RIC Request Data

The Contractor shall submit the data required to request an Advance RIC for any system or equipment that will not have Provisioning Parts Data (PPD) or a PAL request submitted in time for configuration identification. See Appendix A for specific requirements.

4.6.0 Interactive Computer Aided Provisioning System (ICAPS)

In 1999, Mainframe ICAPS and NAVICP's Ships Provisioning System (SPS) was migrated to ICAPS C/S. ICAPS C/S is an Open Systems Environment (OSE) utilizing an ORACLE database, which is resident on a SUN Ultra (UNIX) server, and application software resident on a NT server. Communication to the ICAPS C/S application is possible from anywhere that has access to the Internet.

4.6.1 ICAPS-PC Windows and ICAPS C/S Definition

ICAPS-PC Windows and ICAPS C/S were developed by the government for the purpose of developing and transmitting provisioning related data. It is available free of charge to contractor personnel as well as government agencies. Contractors are encouraged to take advantage of the opportunity to utilize this software which would eliminate any concern about data compatibility between the contractor's development tool and ICAPS. Information on how to obtain the latest version of ICAPS is available on the ICAPS homepage (http://icaps.nctsjax.navy.mil). Two versions of ICAPS are currently available: ICAPS-PC Windows (which replaced ICAPS-PC DOS version) and ICAPS Client Server (ICAPS C/S). ICAPS PC-WIN has incorporated the ability to remotely produce formatted

outputs that facilitate transmission of data from one provisioning activity to another. ICAPS C/S is a real-time database that facilitates the on-line preparation of PTD by the Contractor, the on-line review, technical coding, and approval by the Technical Support Activity (TSA), the on-line review and supply coding by the NAVICP and the eventual loading of the Weapon Systems File (WSF). The major system capabilities include efficient data processing, comprehensive administrative data validations, powerful update capability, on-line report generation, and an extensive on-line help facility. Although use of ICAPS simplifies verification of the data development and submission process, the contractor has the latitude to utilize any system for data development. The Navy requires PTD to be delivered in a format accepted by ICAPS. The ICAPS software is designed to support and accept data in MIL-STD-1552A and MIL-STD-1388-2A/2B (LSA-036) formats for existing contracts and LMI format for new contracts. The LMI format utilizes LSA-036 file structure. The specific format and delivery media requirements are defined in the LMI Worksheet and its narrative which are found in the PMG (see Appendix A). If a non-ICAPS system is utilized, it must be able to produce a structured formatted text or flat file in accordance with the direction contained in the PMG. This is referred to as "ICAPS compatible format" throughout this document.

4.6.2 ICAPS Data Processing Scenarios

The following subparagraphs describe the possible scenarios of processing PTD from ICAPS to the WSF, depending on the each activity's capabilities. Any one of the following scenarios are possible:

a. Concurrent Processing: Contractor/TSA/NAVICP with ICAPS C/S.

b. Semi-Concurrent Processing: Contractor/TSA/NAVICP with ICAPS C/S.

c. Semi-Concurrent Processing: Contractor with ICAPS-PC Windows or ICAPS Compatible Software, TSA/NAVICP with ICAPS C/S.

4.6.2.1 Concurrent Processing: Contractor/TSA/NAVICP with ICAPS C/S

The Contractor chooses to develop the data directly in ICAPS C/S. As the data is being developed , the TSA and NAVICP can view the project before it is officially accepted by the Government. This enables the TSA and NAVICP to identify and resolve discrepancies as they occur, and to also begin their data review,

technical, and supply coding much earlier in the process. The data is coded and corrected more expediently than with a serial process which was used in the past. After the data processing has been completed by Contractor, TSA, and NAVICP, the data is directly loaded to the WSF from ICAPS C/S.

4.6.2.2 Semi Concurrent Processing: Contractor/TSA/NAVICP with ICAPS C/S

The Contractor chooses to develop the data directly in ICAPS C/S, or by using ICAPS PC-WIN and uploads it to ICAPS C/S upon completion. If the Contractor utilizes a system other than ICAPS, the system must be ICAPS compatible and the data must be loaded into ICAPS PC-WIN before it can be uploaded into ICAPS C/S. Once the data is resident in ICAPS C/S, the TSA can review the data and technical coding. The data is also accessible for review by the NAVICP. After the TSA has completed the technical coding and the NAVICP has finished reviewing the data, NAVICP performs the supply coding in ICAPS C/S and then loads the WSF.

4.6.2.3 Semi-Concurrent Processing: Contractor with ICAPS PC-WIN or ICAPS Compatible Software Only, TSA/NAVICP With ICAPS C/S

The Contractor chooses to develop the data in ICAPS PC-WIN and outputs the data to a diskette utilizing the .PCS (C/S Interface File) format. If the Contractor utilizes a system other than ICAPS, the system must be ICAPS compatible and the data must be output to a diskette. In either case, the diskette is sent to the TSA for loading into his version of ICAPS for review and approval. Upon approval of the data, the TSA uploads the data to ICAPS C/S. Once the approved data is in ICAPS C/S, all other processes remain the same. Although the Contractor is without ICAPS C/S access in this environment, the TSA and NAVICP are able to easily coordinate via the ICAPS C/S.

4.6.3 ICAPS Capabilities

ICAPS offers speed and accuracy of data flow between all participants and allows the review of information at the ICP level prior to formal submission to the ICP. ICAPS has accelerated the generation of PTD at the Contractor and TSA levels and significantly reduced the overall provisioning lead time.

Although ICAPS C/S and ICAPS PC-WIN may be used independently, maximum efficiency is gained when the software are used together. Provisioning information may be downloaded from ICAPS C/S to the users PC for off-line processing in ICAPS PC-

WIN. The user can then complete the PTD and upload the new information back into ICAPS C/S. This process eliminates processing slowdowns which the user may experience from time to time with ICAPS C/S due to heavy internet traffic.

Data entry validation exists in both ICAPS PC-WIN and ICAPS C/S. Standard and Ad Hoc reports are also available from both ICAPS PC-WIN and ICAPS C/S.

The flexibility of data transmission is another benefit of ICAPS. There are several options available for data transfer: compact disk, diskette, or the preferred method of electronic transfer over the internet. The ICAPS PC-WIN software is available free of charge. It can be downloaded from the ICAPS Homepage (http://icaps.nctsjax.navy.mil) or may be obtained by calling 904-542-6241.

4.7.0 Naval Inventory Control Point (NAVICP)

The provisioning data is processed in ICAPS C/S where the cataloging/supply portion is loaded by NAVICP. Each equipment acquired for use on a ship is assigned to a NAVICP, Provisioning ICP (PICP) and an Inventory Manager (IM). The responsibilities of the three roles are as follows:

The NAVICP provides for total life-cycle supply support for designated systems/equipment regardless of who manages the various spare and repair parts comprising the system/equipment.

The Provisioning ICP (PICP) is tasked to record and support technical decisions using Provisioning Technical Documentation (PTD) to code and enter data into Navy data bases in order to catalog items, develop allowance lists, and order retail and wholesale material.

Inventory Management ICP maintains life-cycle management of specific secondary items of system stock to support replenishment of retail levels. The Inventory Manager (IM) plays a key role in maintaining levels of stock issued from stock points to end users. Less than 30% of the items used by the Navy are managed by the Navy).

For equipment acquired for use on Navy ships, NAVICP fulfills all three of these roles. Occasionally, NAVSEA or SPAWAR will retain inventory management of the end item; however, NAVICP normally keeps the inventory records but the decisions are made by NAVSEA/SPAWAR.

4.7.1 Provisioning Screening Process - Item Identification

In a given provisioning submission there may be thousands of piece parts. The range of data required for each of the "new" items is extensive. In an effort to prevent duplication of an item already in the supply system, NAVICP has all items screened against the Federal Supply System's data base.

The Naval Inventory Control Point screens the Defense Logistics Services Center's (DLSC) files to determine whether items associated with new equipment are already cataloged and managed in the Federal Supply System (FSS). This is referred to as the Federal Logistics Information System (FLIS) screening process. Defense Logistics Services Center (DLSC) is responsible for cataloging items of supply and establishing and maintaining National Stock Numbers. DLSC accomplishes this by building what is known as the Total Item Record (TIR) file. DLSC maintains the Total Item Record (TIR) file for all stock numbers used within the Federal Supply System. The file contains cross-references between the Commercial and Government Entity Code (CAGE), manufacturer's part numbers, and National Stock Numbers (NSNs). A CAGE is a 5 digit alphanumeric code that identifies a manufacturer or government agency. When existing NSNs are identified, normal cataloging and related item entry control operations can be eliminated or simplified. NAVICP is responsible for final NSN selection for each item.

The results of the screening process will be incorporated into the PTD. As part of ICAPS C/S, a program is executed which automatically generates requests for FLIS/Uniform Inventory Control Point (UICP) screening to a magnetic tape. Subsequently, ICAPS C/S intercepts the FLIS screening results and automatically applies information from this file to the corresponding items of the ships provisioning data base. NAVICP is responsible for final determination of which NSN will be used to support an item. If the item is not in the DOD inventory system, a decision is made to catalog the item into the system and assign a corresponding new NSN. Screening can be performed by the TSA or NAVICP if an item is thought to be already in the system. Although screening will not be invoked in contracts, some vendors or shipbuilders may routinely screen FLIS to save themselves time and money in being required to only provide limited PTD (i.e., Statement of Prior Submission) if a match to an existing NSN is found.

As part of the cataloging process, the Federal Supply System assigns stock numbers based on the type of information known about the item. This process is known as item identification. FLIS uses two basic methods of item identification: the

Descriptive method and the Reference method. The descriptive method is a process of identifying an item of supply by its physical and/or performance characteristics along with the applicable manufacturer's code and part number identifying the item of production. However, the reference method of identification is based solely on a reference to the appropriate manufacturer's part number. Full descriptive data about an item (e.g. what it is made of, its dimensions, tolerances, specifications, etc.) is preferred over having only reference data (manufacturer's part number and the manufacturer's CAGE code). To describe the range of information available about an item of supply, FLIS has developed a range of stock number types. The types of stock numbers are listed below.

Type 1	Full Descriptive
Type K	Full Descriptive - Reference
Type L	Full Descriptive - Reference - Descriptive
Type 2	Reference
Type 4	Partial Descriptive
Type M	Partial Descriptive Reference
Type N	Partial Descriptive Reference - Descriptive

For more detailed information, see DOD 4100.38-M.

4.7.2 Spares Computation

Once it has been determined that an item will be organically supported, the item must be identified, cataloged, and purchased so that when the first equipment needs to be installed or needs a repair part, the part will be available. Whether the part was already in the Federal Supply System (FSS) or newly provisioned, the new and additional number of parts should be taken into account for the increased future demands.

If the part is Navy unique, a Planned Program Requirement (PPR) is entered into the NAVICP files. Planned Program Requirements (PPRs) are documents placed in the NAVICP files to load requirements for outfitting material into the system, protect reserve system stock from being issued, and load stock into the system for ship overhauls. PPRs are entered by fiscal year for procurement in preparation for the future installations. A PPR is a record which reflects a future stock need or stock level enhancement. It reflects a future, non-recurring support requirement not predicted based on past demand.

If the part is not Navy unique, a Supply Support Request (SSR) is sent to Defense Logistics Agency (DLA). The SSR identifies to DLA that the Navy has a need for an NSN if one is not assigned or an increased demand if an NSN does exist for the part.

For Navy managed items, a Supply Demand Review (SDR) of assets and requirements is performed every two weeks to determine if a supply action is required. The PPRs entered for that buying period will be considered as an additional requirement. This review is computerized to consider all assets and requirements entered in the system.

DODINST 4140.42 sets the policy for wholesale level Initial System Stock. Its objective is to establish and maintain an inventory system that stocks repair parts in advance while minimizing the probability of over-procurement. This over-procurement could result when stock buys must be determined without any demand data. There is a restriction on the number of installations that can be considered when establishing initial stock levels. This restriction is called Time Weighted Average Month's Program (TWAMP). This concept is based on the actual operational time for each installation becoming active in the time period to be considered. The objective is to have the material on the shelf 90 days before each installation becomes effective. See Figure 4-2.

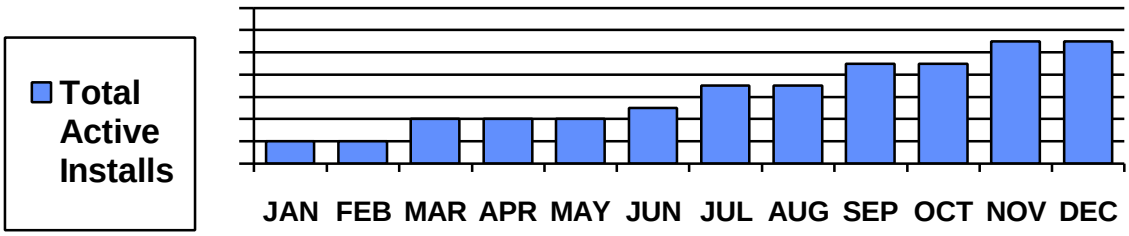


Figure 4-2

For demand based items, the Navy Variable Threshold Model ranks each item. If the cost is higher, the ranking will be lower. Likewise, if the demand is higher during lead time, the ranking will be higher. The model starts with the highest ranked stockage candidate, computes the amount to buy, and subtracts the value of the buy from the budget. If sufficient funds are available, it repeats the cycle for the highest ranked remaining stockage candidate.

An item manager can buy a minimal amount of stock for an item even if the demand is low or zero. If the item is an essential component of a piece of equipment, stocking at least one Minimum Replaceable Unit (MRU) is allowed. These include Numeric Stockage Objective (NSO) items which have a very low demand forecasted and insurance items which have no demand forecasted.

During provisioning, engineering estimates are made to assign an initial Technical Replacement Factor (TRF) for new items of supply. After the equipment has been in operation, actual demand observations are collected and smoothed into the Best Replacement Factor (BRF).

4.8.0 Provisioning Decisions

4.8.1 Replacement Factor

Replacement Factors (RFs) are used in the provisioning process to facilitate sparing determination. The RF represents an estimate of its annual replacement rate. RF can be described with the following simple equation:

$$\frac{\text{Replacements per Year}}{\text{Units Installed}}$$

It should be pointed out that RF is based on "replacements" not "failures", therefore all item replacements are included regardless of whether they resulted from a failure or routine preventive maintenance.

There are three main types of replacement factors: TRF, BRF, and ARF. When a new item first enters the supply system, it is assigned a Technical Replacement Factor (TRF) based on an engineering estimate of usage. Sources for the TRF are the Median Family Replacement Factor, Mil-Handbook 217, Contractor data, In-Service Engineering Agent (ISEA) data, and logistic support data. Appendix C contains additional information on TRFs.

Once the item has been in the supply system long enough to establish a demand pattern, a Best Replacement Factor (BRF) is assigned to "update" the TRF with a more accurate estimate of replacements. A BRF represents the number of times in a year an item can be expected to be replaced for all of its applications. For example: a replacement factor of 0.10 indicates that if 100 specific items were operated for one year, 10 of them could be expected to be replaced. The BRF for an item is updated annually using actual Fleet usage data.

Another replacement factor used in the provisioning process is the Application Replacement Factor (ARF). The ARF, as its name implies, is the item's replacement rate per year for one specific type of equipment (application) and is based on actual data vice an estimate.

4.8.2 Essentiality Code (EC)

For information regarding EC assignment see Appendix D.

4.8.3 Minimum Replacement Unit (MRU)

Another required piece of information in the provisioning process is Minimum Replacement Unit (MRU). The MRU specifies the number of units of an item required to accomplish a single repair. The MRU can range from one up to the total quantity per component (QPC) of the item installed in the equipment.

Within the provisioning process, MRU is used to determine the multiple to which the item is to be stocked.

4.8.4 Allowance Item Codes

The LMI Performance Specification (MIL-PRF-49506)defines the Allowance Item Code as a code which consists of 2 subfields: Allowance Type and Allowance Code. The Allowance Type subfield consists of 5 categories, of which the Navy uses 3. These are the Allowance Note Code, the Technical Override Code, and the Allowance Factor Code as explained in the following subparagraphs. For information regarding the specific application of these codes, see Appendix B of MIL-PRF-49506.

4.8.4.1 Allowance Note Code

Allowance Note Codes provide specific instructions or information concerning an item in the allowance document.

An example of an Allowance Note Code (ANC) would be “N". An ANC “N" is assigned when a Maintenance Assistance Module (MAM) is required to execute the approved maintenance planning documentation which calls for identifying the fault or failed module through progressive and/or selective module substitution. The TSA provisioner would assign an “N" in a specific field in ICAPS with an appropriate quantity.

4.8.4.2 Technical Override Codes

Technical Override Codes are often referred to as Allowance Overrides, which are used to ensure that a minimum quantity of an item is stocked aboard ship (Code “P” or “S”) or ensure that an item is not stocked aboard ship (Code “Z”). These codes must be used wisely, as they have frequently been misused in the past.

4.8.4.3 Allowance Factor Codes

Allowance Factor Codes (AFCs) specify the quantities of an item which must be carried as storeroom or operating space items. Normally AFCs are used for equipment supported by a conventional COSAL. The requiring authority will specify the code to be used in this field. See SPCCINST 4441.170A for a listing of the codes.

4.8.5 Source, Maintenance and Recoverability (SMR) Coding

During the provisioning process, a series of actions are taken to select, stock-number, and buy parts expected to be needed to perform corrective or preventive maintenance on an equipment. The selection of the parts to be stocked is done in accordance with the equipment maintenance planning documentation. The maintenance planning documentation tells the provisioner which parts are to be replaced at the user level and which are to be replaced at an intermediate or depot maintenance activity. The maintenance planning documentation is reflected for each item (part of assembly) listed on an equipment Allowance Parts List (APL) through the Source, Maintenance and Recoverability (SMR) codes. For more information on SMR codes see NAVSUP P-719.

4.8.6 Provisioning for Maintenance Assistance Modules (MAMs)

A Maintenance Assistance Module (MAM) is used during organizational level maintenance to isolate the cause of failure to a single point. If the design or maintenance philosophy of a system/equipment dictates the use of MAMs, the following policy is provided. This policy provides general MAMs provisioning guidance for systems/equipment, as well as two special situations:

(a) Unique situations, and

(b) Brokered/embedded equipment.

4.8.6.1 General MAMs Guidance

The following policy describes the preferred approach to be used when identifying MAMs on an APL. MAMs will be specifically identified on the equipment/system APL. During provisioning of the equipment/system APL, using ICAPS C/S the TSA will assign an Allowance Note Code (ANC) of “N", and the appropriate Allowance Factor Code (AFC) and AFC Quantity (QTY) for each MAM required for fault isolation. The ANC determines the range of MAMs that will be reflected in the ship's allowance, while the AFC and AFC QTY assigned determine the specific allowance quantity for each

MAM. In addition to this preferred approach, MAMs have occasionally been identified on a separate MAMs APL, or on a separate MAMs Allowance Equipage List (AEL).

The preferred approach of MAMs on the equipment/system APL will instill discipline and eliminate confusion and uncertainty. It will simplify configuration accounting and ensure the accuracy of the resulting MAM allowances. SNAP II's capabilities to segregate and group MAM allowances have eliminated the need for the purported benefits of separate MAMs APLs and AELs; ease of identification and inventory were the historic rationale for separate MAMs APLs and AELs. Properly identifying MAMs on the equipment/system APL will accurately establish MAM levels in shipboard allowances.

4.8.6.2 Maintenance Assistance Modules Allowances for "Unique" Situations

On rare occasions, unique situations may occur that will preclude identifying MAMs on the equipment APL. To identify the unique situations requires a fundamental understanding of the MAMs allowance computation process:

(a) If a given NSN is coded as a MAM for different APLs (different equipment), then there is an additive MAMs allowance for the NSN for each application (APL).

(b) However, if a given equipment (a single APL) has a shipboard population of two (or more), the MAMs allowance for that APL is not additive.

(c) The underlying logic is that if there are two (or more) display units on a ship, the technician only needs one set of MAMs to maintain that particular equipment. While if a given NSN is a MAM for two different equipment (APLs), then the NSN should be included in the MAMs set of each equipment.

This MAMs allowance computation logic, in concert with the basic policy of identifying MAMs on the equipment APL, would result in an inflated MAMs allowance in "unique" situations. For example, suppose there are five consoles in the LM2500 control consoles, each with a unique configuration and an associated APL. There is a single set of MAMs that supports all of the consoles. Certain NSNs that are common to two or more consoles are also MAMs. If one follows the basic policy, the appropriate range and depth of MAMs (documented via the ANC, and AFC and AFC QTY) would be identified on each console APL. This would mean that if a given NSN is a MAM and is installed in three consoles, (APLs 1, 2, and 3), the allowance computation process would allow the MAM

for each APL (1, 2, and 3). This would result in a total MAMs allowance quantity of three for the NSN vice the appropriate quantity of one (See Figure 4-3).

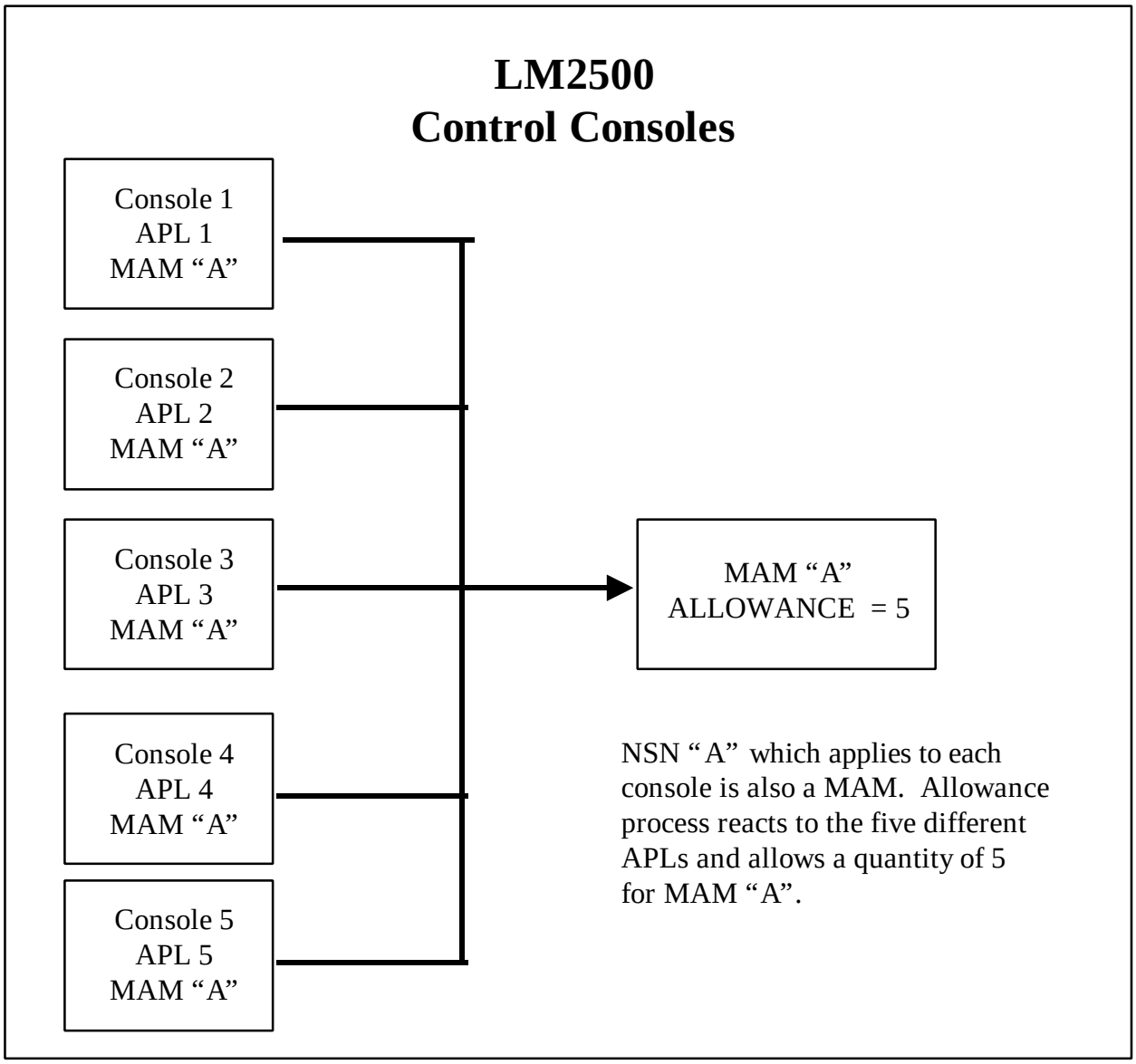

LM2500
Control Consoles
Console 1
APL 1
MAM "A"
Console 2
APL 2
MAM "A"
Console 3
APL 3
MAM "A"
Console 4
APL 4
MAM "A"
Console 5
APL 5
MAM "A"
MAM "A"
ALLOWANCE = 5
NSN "A" which applies to each console is also a MAM. Allowance process reacts to the five different APLs and allows a quantity of 5 for MAM "A".

Figure 4-3

In this special situation, a separate MAMs APL will be developed to properly identify the equipment/system's MAMs allowance (See Figure 4-4). To retain the integrity of the store room allowance computation, a technical override code of "Z" will be applied to these items by the TSA to preclude artificially inflating the installed part population.

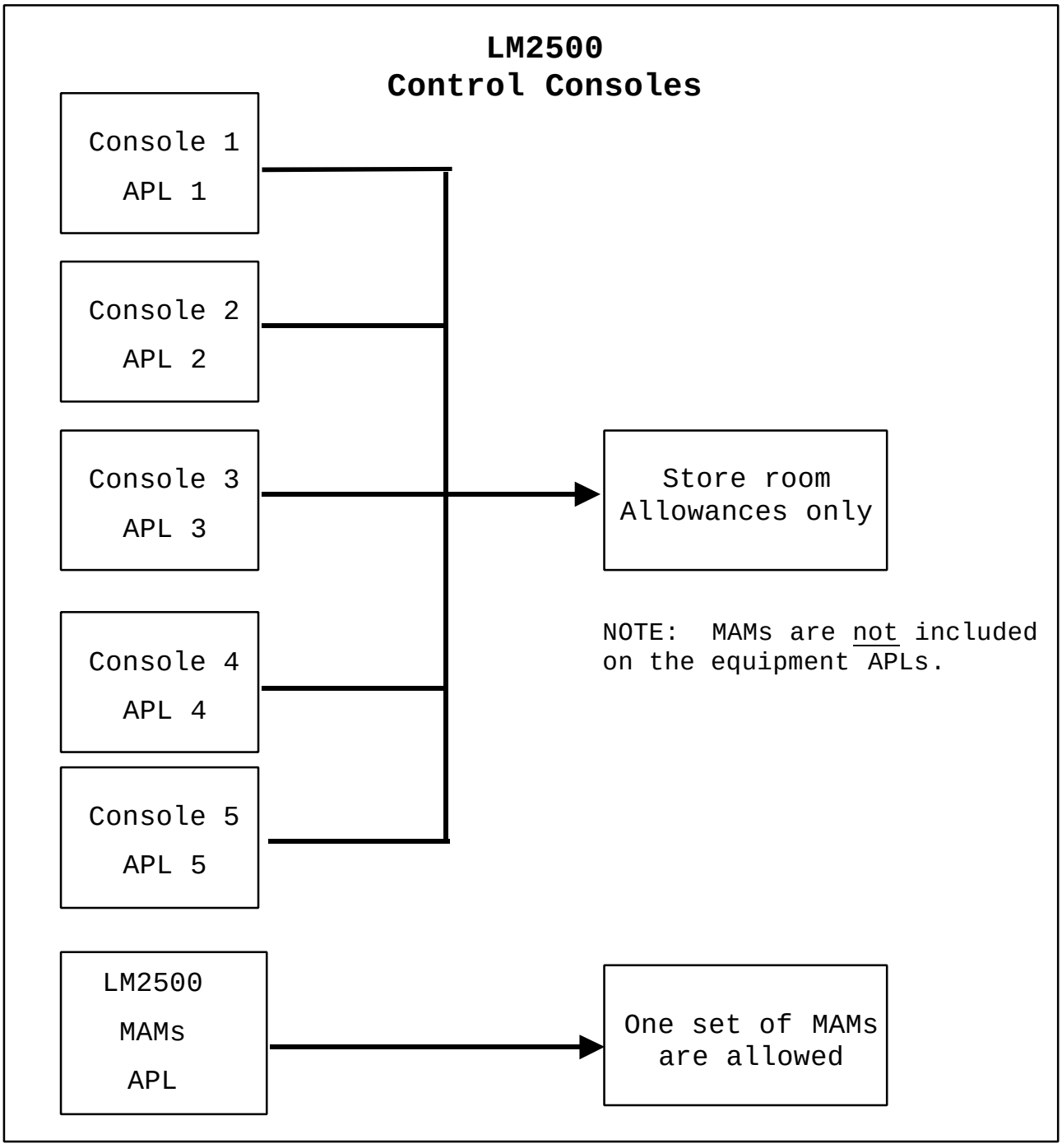


Figure 4-4

4.8.6.3 Brokered/Embedded Equipment MAMs Guidance

Brokered/embedded equipment are centrally procured by a designated acquisition manager and provided to various acquisition managers for use in their systems (referred to as the parent system). A Technical Support Activity (TSA) is responsible for provisioning the "Fleet" Allowance Parts List(s) (APLs) for the brokered/embedded equipment, while the provisioning of the parent system APLs are normally the responsibility of a different TSA. A "Fleet" APL is defined as the APL developed for the brokered/embedded equipment that is used by the entire "Fleet", as opposed to an application specific APL that is only used for a specific system.

Final responsibility for ensuring that the provisioning and allowance documentation of the parent system, including the brokered/embedded equipment portion, supports the system’s maintenance philosophy rests with the Life Cycle Manager (LCM) of the parent system. Accordingly, it is the responsibility of the TSA for the parent system to ensure the appropriate range and depth of MAMs for the brokered/embedded equipment are identified in the allowance documentation.

The brokered/embedded equipment TSA must develop a MAMs "shopping list" PCCN which is used by the parent equipment TSA to build an "application specific" MAMs APL. This "application specific" MAMs APL will reflect the maintenance philosophy for brokered/embedded equipment as part of the specific parent system. The "application specific" MAMs APL must have a "Z" technical override code assigned to override storeroom item allowance computation. For an example, see Figure 4-5.

BROKERED EQUIPMENT

EXAMPLE: AN/UYK-44

"FLEET" APL WITH MAMs REMOVED
&
APPLICATION SPECIFIC MAMs APL
(i.e. SONAR)

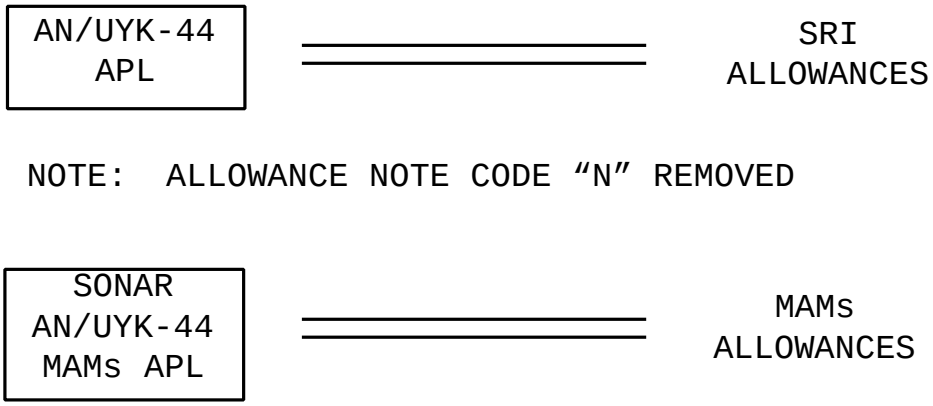


Figure 4-5

NOTE: In addition to building the shopping list, the Brokered/embedded equipment TSA will develop and maintain a Fleet APL without MAMs to provide store room support for the brokered/embedded equipment.

The parent system LCM is ultimately responsible for ensuring that the allowance documentation of his/her system accurately supports its maintenance philosophy. This responsibility includes any brokered/embedded equipment. The LCM will ensure that an appropriately coded application specific MAMs APL is developed and will plan for the acquisition of the MAMs for ship outfittings. To promote MAM sharing and preclude excessive MAM quantities onboard, the TSAs for the parent systems and/or the Combat Systems Integrator should consider building a single MAMs APL for any co-located systems. For more details on brokered/embedded equipment MAMs APL processing instructions, see Appendix B.

4.9.0 Repair Analysis Summary

The Repair Analysis Summary documents the conclusions and recommendations of the repair level analysis. The government may verify the conclusions and recommendations by using contractor's inputs to perform an in-house analysis. This summary may also be used by the government to develop initial fielding plans for the end item's support structure. The conclusions may include actions and recommendations for influencing the system design, and a list of which items should be repaired and which should be discarded. This summary may identify for each item being repaired the level of maintenance at which the repair should be performed and the associated costs. It may identify, for the system support structure, the operational readiness achieved and the placement and allocation of spares, support equipment, and personnel.

This summary may also include supporting information for the analysis performed, for example:

- a list of the input data (e.g., failure rates, repair times, etc.) and their corresponding values
- sources of the data
- operational scenario modeled
- assumptions made
- constraints (i.e., non-economic factors) imposed on the system
- maintenance alternatives considered (i.e., use of support equipment/personnel, BIT/BITE, and supply and maintenance facilities)
- the analytical method or model used to perform the economic evaluations
- discussion of the sensitivity evaluations performed and results obtained

Economic evaluations may consider cost factors (e.g., spare parts, transportation, inventories, labor, and training) and performance factors (e.g., mean time to repair, operational availability, and mean time between failures). Non-economic evaluations may consider preemptive factors (e.g., safety, vulnerability, mobility, policy, and manpower) that restrict or constrain the maintenance level where repair or discard can be performed.

Sensitivity evaluations should be conducted to assess how variations in input parameters affect the baseline maintenance concept and associated risks. Two significant areas that may be assessed during sensitivity evaluations are changes in repair level assignments for an item and total life cycle cost.

The level of repair directly affects the provisioning process and supply support. The repair analysis is the process of determining whether or not to repair or discard a failed part and at what level of maintenance repair should occur. Replacement parts quantities and stock points are related to this decision.

The provisioning process is affected by the repair analysis decision. The provisioner should have at his disposal the Repair Analysis Summary to help make the final determination of the level of repair. Provisioning is the process of determining the range and depth of repair parts which are required to support an end item for an initial period. The range and depth of repair parts is a direct function of what level of maintenance will repair the item. If a depot will perform repairs, it is not necessary to carry repair parts aboard ship. However, the ship may he authorized to carry spares for the repairable item.

A copy of this summary should be provided to the TSA 30 days prior to the provisioning conference.

4.10.0 Allowance Documents

As discussed in section 4.1.0 of this chapter, the purpose of provisioning is to determine the spares and repair parts required to support an end item. The provisioning community has developed documents to express the results of this process to the users, i.e., the Fleet. They are developed on an individual equipment/equipage basis and then compiled into a comprehensive data base called the Shipboard Non-tactical Automated Data Processing Program (SNAP) and/or a hard copy document called the Coordinated Shipboard Allowance List (COSAL) that establishes ship-wide support for all equipment/equipage. SNAP, the COSAL, and related documents are discussed in Chapter 6, Allowance Documentation.

Chief of Naval Operations (CNO) policy requires all equipment be supported at Preliminary Operational Capability (POC). An Allowance Parts List (APL) is developed to list repair parts needed to maintain equipment, and an Allowance Equipage List (AEL) is developed to identify material or equipage needed to perform a particular function aboard ship. APL parts are usually considered storeroom items and AEL parts are considered operating space items. An AEL is typically considered the document that identifies portable equipment and equipage. In addition, there are those equipment which, if an APL were developed, would not have repair parts listed. These items are termed non-APL worthy. An APL will not be developed unless APL assignment is the only means available to convey required COSAL

service application information. Non-APL worthy equipment are discussed more in Section 4.11 of this chapter.

4.11.0 APL Worthiness Guidance

An item is considered APL worthy if it is identifiable by its own nameplate, can be operated independently or as part of another system, and if either of the following situations apply:

a. The end item/component is determined by the maintenance philosophy to be repairable through replacement of one or more parts, or

b. The end item/component has been determined to be non-repairable (consumable) by the maintenance philosophy, but is mission critical or configuration worthy.

If any of the above guidance is not applicable, the item is considered non-APL worthy and will be added as a Line Item (LI) to the Next Higher Assembly (NHA) APL or to the ship's 89000 series APL.

The decision to declare a component non-APL worthy is not absolute and may be subject to individual interpretations of established rules and differing viewpoints. Therefore, provisioning should be completed when reasonable doubt exists that the component will be considered non-APL worthy, as lack of such information will needlessly lengthen the provisioning cycle.

4.11.1 Non-APL Worthy Item Alternatives

Once it has been determined that an item is maintenance significant but non-APL worthy, the Navy must determine what to do with the item. Maintenance significant items require PTD. The NAVSEA Program Manager Guide (Appendix A) lists specific non-APL worthy items and recommends the type of support to be provided. For items determined to be non-APL worthy but not included in the NAVSEA Program Manager Guide, the following support methods, in order of precedence, are listed below:

a. Include the item in the "Parent" APL applicable to the equipment in which the item is an installed part. Example: A non-APL worthy transformer or switch installed in a panel or switchboard.

b. Include the item in the system-level APL which lists all the APLs in a particular system. Example: A non-APL worthy

gasket used to connect the motor and the pump in a pump unit, whereas the pump unit represents the system.

c. Include the item on an Allowance Equipage List (AEL) if the item falls into the general category of equipage and tools stored in the operating space of a system.

d. Include the item in the 89000 series ship's miscellaneous repair parts APL if alternatives 4.11.1a, 4.11.lb and 4.11.lc are not possible. Non-APL worthy items, which are maintenance significant, are to be included in the appropriate 89000 series APL when:

(1) The item is readily recognizable by description, standard plan or type number, manufacturer part number or system drawing and piece number as a separate entity, and,

(2) No adverse effects will occur to COSAL effectiveness due to the loss of specific service application information. If the system drawing and piece number of the item are included as an alternative part number in Part III Section D of the COSAL, the service application will not be considered lost.

4.12.0 Weapon Systems File (WSF)

The Weapon Systems File (WSF) serves as a repository for information provided during the provisioning process. Equipment configuration, inventory management, maintenance significant parts, and technical coding are examples of information provided by the provisioning process. Equipment-to-part data is listed in the WSF Level C. Types of equipment include Hull Mechanical and Electrical (HM&E), Electronics, and Ordnance. Technical coding for example, SMR, Part MEC, Allowance Item Codes and MRU - for piece parts is recorded in WSF Level C. Inventory management information is contained in the Master Data File (MDF), Program Support Interest (PSI) file, and the Technical Reference File (TRF). Inventory control records for Navy Managed Items are contained in the MDF. Inventory control records provide asset information and management data for material managed by the Navy. The PSI file provides only descriptive type information and application data for material under the cognizance of other than Navy inventory managers. The TRF contains information about items that have been canceled.

4.12.1 Master Data File

The Master Data File is an on-line file containing the inventory record for all applicable spares and repair parts managed by NAVICP, NAVSEA, and SPAWAR. It also contains the technical and management items established and maintained by the provisioning/cataloging process.

a. Reference number data is used to record all manufacturer's CAGE and Reference Numbers which apply to the item. Data is initially established by provisioning.

b. Application data reflects the maintenance concept for the item in the equipment identified by the APL Number which controls the trailer entry. Technical Codes such as SMR, Allowance Item Code, Quantity per End Item and Part MEC are recorded against the application trailer. This data is established and maintained by the provisioning process.

c. The repair data is present for each depot level repairable and contains repair information such as Designated Rework Point (DRP), carcass return forecasts/observations, and survival data. It is initially established by the provisioning process and subsequently maintained by repair management operations.

d. The stock status data are inventory trailers which record item stock status (assets and liabilities). System and activity totals of condition and purpose code "A" material are recorded. Those other than "A" are maintained in a file by the stock points. These trailers are fundamental to the inventory process but are initially established when provisioning buys are recorded in the files.

4.12.2 Program Support Interest File (PSI)

The Program Support Interest (PSI) file is an on-line file containing item records for those items which the Navy is not the item manager. These items commonly have multi-service applications and are managed by a Defense Logistics Agency (DLA).

4.12.3 Technical Reference File (TRF)

The Technical Reference File (TRF) is an on-line file containing records for those MDF items having no replacement, on which interest has been withdrawn, and those non-stock numbered items considered vital for conduct of ICP operations. These items are local technical reference items which are known as Permanent Navy Item Control Numbers (P-NICNs). There are two kinds of TRF items: canceled/deleted NSNs and local technical reference items. When an ICP manager deletes an item and the

item is no longer managed, the cataloging process will cause the item to be moved from the MDF or the PSI to the TRF.

4.12.4 Master Allowance Part List (MAPL)

The MAPL file is a file containing "top-down breakdown" of all electronic equipment maintenance parts in Reference Symbol/ Circuit Symbol sequence. Section "B" of the electronic APLs is built using this data file. Since a repair part in an electronic equipment can be used in multiple assemblies, it may have various install and removal codes based on the reparability of each assembly in which it is installed. Section "B" will show the SMR code for all appearances of the part, while section "A" shows only the lowest removal code.

REFERENCES

(a) MIL-PRF-49506, "Logistics Management Information", 11 November 96

(b) NAVSEA GEN SPEC S9AAOA-AA-SPN-010, "General Specifications for Ships of the U.S. Navy", 95 Edition

(c) DOD 5010.12-L, "Acquisition Management Systems and Data Requirements Control List (AMSDL)", 1 October 96

(d) MIL-DTL-31000, Notice 2, General Specifications for Technical Data Packages, 9 August 96

(e) DoD-D-1000B, Amendment 4, "Drawings, Engineering and Associated Lists", 1 July 90 (Superseded by MIL-DTL-31000, outstanding contracts may still invoke)

(f) DOD Instruction 4140.42, "Determination of Requirements for Spare and Repair Parts Through the Demand Development Period", 28 July 87

(g) MIL-HDBK 217F, Military Handbook: "Reliability Prediction of Electronic Equipment", 2 December 91

(h) ICAPS-PC Windows User's Guide (NAVSEALOGCEN), "*(ICAPS-PC) WINDOWS USER'S GUIDE, 1 NOVEMBER 1998"*

(i) NAVICP Instruction 4441.170A, change 1, "COSAL Use and Maintenance Manual", 9 June 1995

(j) NAVSUP P-719, "Guide for the Assignment, Application and Use of Source, Maintenance and Recoverability Codes," 3 June 99

(k) MIL-STD-1629A, "Procedures for Performing a Failure Mode, Effects and Criticality Analysis", 24 November 80

(l) MIL-HDBK-756B, "Reliability Modeling and Prediction", 18 November 81

(m) NAVSEA TE660-AA-MMD-010, Version 8.21, "TIGER Users Manual", September 87

(n) NAVSEA Technical Specification 9090-700A, "Ship Configuration and Logistics Support Information System", December 1988.

APPENDICES

Appendix A	NAVSEA Program Manager Guide
Appendix B	Brokered/Embedded Equipment MAMs APL Processing Instructions
Appendix C	Technical Replacement Factors
Appendix D	Guidance for Assignment of Essentiality Codes (ECs)
Appendix E	Reference Designation, Quantity Per Assembly, and Quantity Per End Item
Appendix F	Indenture Coding
Appendix G	Contractor Furnished Equipment (CFE) Allowance Parts List (APL) Worthiness Guidance
Appendix H	Commercial and Non-Developmental Item (CaNDI) Allowance Documentation Guidance
Appendix I	Preliminary Allowance List Data Elements
Appendix J	Provisioned Item Orders (PIOs) and Guidance for Completion of Standard Form 26, Award Contract

APPENDIX B

BROKERED/EMBEDDED EQUIPMENT
MAMs APL PROCESSING INSTRUCTIONS

The following are the basic steps for developing the brokered/embedded equipment APL (SRI only) and the application unique tailored MAMs APL. The following figure depicts the provisioning actions required. The configuration actions that are also required are also identified. Note: Although the provisioning actions are a joint effort by the TSA and NAVICP, the TSA is the technical authority on these provisioning actions.

A. Provisioning Actions:

1. Develop APL **(APL B)** for the brokered/embedded equipment that reflects SRI allowances only. *(Responsibility of TSA and NAVICP Program Manager for the brokered/embedded equipment).*

   a. Identify the current APL **(APL A)** being used to document both SRI and MAM allowances for the brokered/embedded equipment.

   b. Using this APL as a baseline, develop a new APL **(APL B)** for the brokered/embedded equipment with all Allowance Note Code "N"s removed.

2. Develop "Shopping List" MAM PCCN **(PCCN X)** for the brokered/embedded equipment. *(Responsibility of TSA and NAVICP Program Manager for the brokered/embedded equipment).*

   a. Transfer current APL **(APL A)** being used to document both SRI and MAM allowances for the brokered/embedded equipment from the Weapons System File (WSF) to ICAPS C/S as **PCCN X.**

   b. Modify **PCCN X** to reflect only MAMs applicable to the brokered/embedded equipment for all applications.

   Note: PCCN X does not have to be an actual PCCN assigned by NAVICP.

   Use the following recommended PCCNs in ICAPS C/S for development of the "Shopping List" MAM PCCN.

Brokered Equipment	**PCCN**
AN/UYK-44	**UYK44M**
AN/UYH-3	**UYH3MA**
AN/UYK-7	**UYK7MA**

3. Develop "Application Unique" APL **(APL C)** that reflects MAM allowances for the brokered/embedded equipment. (*Responsibility of TSA* and *NAVICP Program Manager for system that the brokered/embedded equipment is used on).*

a. Obtain a new PCCN **(PCCN Y)** from NAVICP by following standard procedures for use in the development of the tailored MAMs APL.

b. Duplicate **PCCN X** developed in step 2 above (all MAMs applicable to the brokered/embedded equipment) to the new PCCN **(PCCN Y).**

c. Using **PCCN Y**, delete the unnecessary MAMs to reflect the unique maintenance planning documentation and configuration of your equipment/system. This will develop the application unique MAM PCCN.

d. Process the new **PCCN Y** using regular ICAPS C/S provisioning procedures. Upon completion of provisioning by NAVICP in ICAPS C/S, the application specific MAM APL **(APL C)** will be developed.

B. Configuration Actions:
(Responsibility of LCM/ISEA for system that the *brokered/embedded equipment is used on).*

1. Submit configuration changes to the appropriate Configuration Data Manager to update the ships, configuration and allowances for your system.

a. Delete **APL A** with SRI and MAM allowances for your application.

b. Add **APL B** with SRI allowances.

c. Add "Application Unique" **APL C** with MAM allowances.

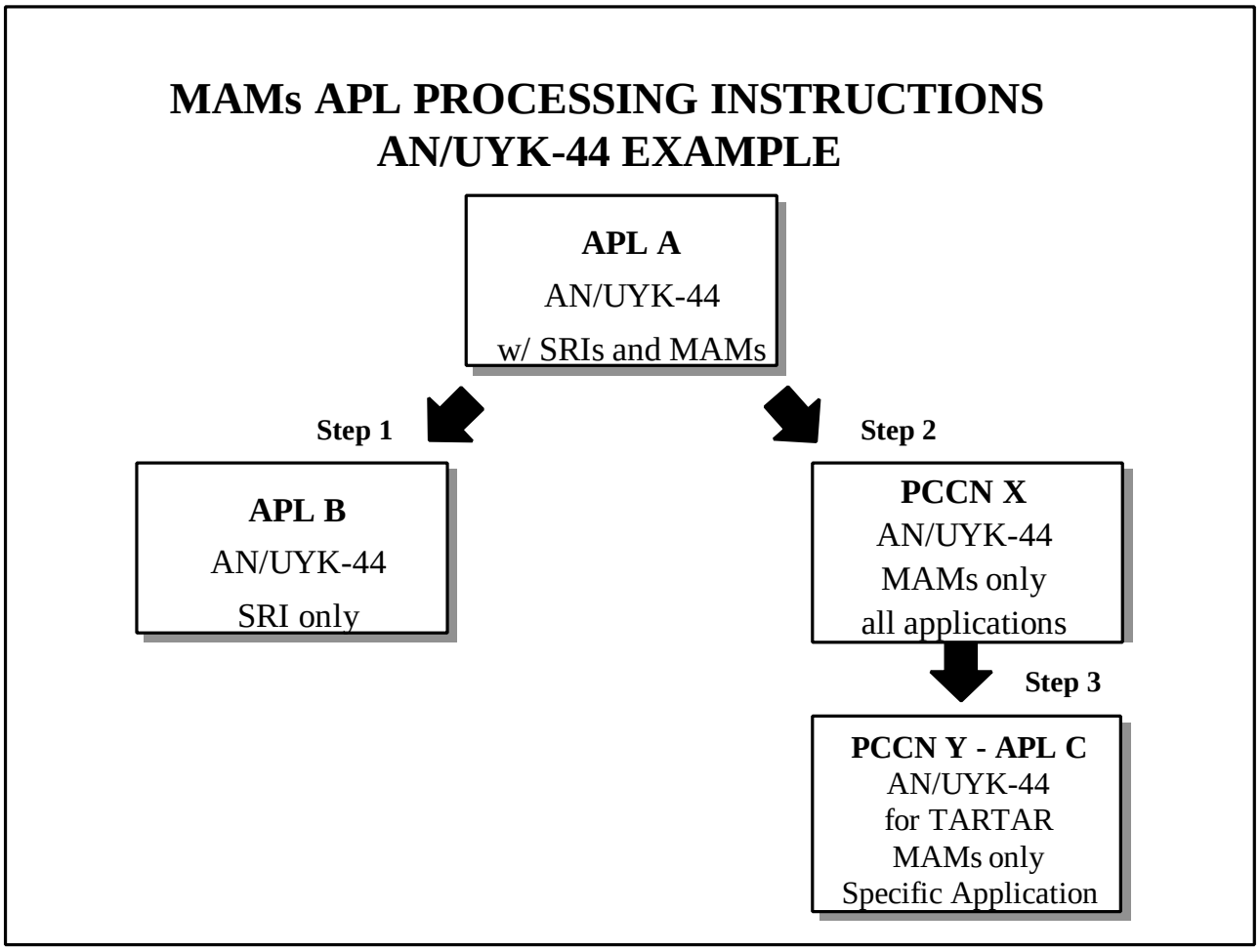

MAMs APL PROCESSING INSTRUCTIONS
AN/UYK-44 EXAMPLE
APL A
AN/UYK-44
w/ SRIs and MAMs
Step 1
Step 2
APL B
AN/UYK-44
SRI only
PCCN X
AN/UYK-44
MAMs only
all applications
Step 3
PCCN Y - APL C
AN/UYK-44
for TARTAR
MAMs only
Specific Application

Figure B-1

APPENDIX C

Technical Replacement Factors (TRFs)

During the provisioning process for a new system/equipment, each part within the system/equipment subject to replacement that was not identified to a National Stock Number (NSN) during screening shall be assigned a TRF by the contractor. The TRF is an engineering estimate derived from several sources, depending upon the characteristics of the item (electrical, mechanical, electronic). The TRF is used in the computation of stocking levels until the item has been in the supply system long enough to establish a demand or usage pattern. When demand data are applied, the TRF is updated.

1. Relationship of TRF to Failure Rate. Failure rate, as commonly used in discussing reliability or failure prediction of equipment and their repair parts, is the ratio of the number of part failures divided by the population of the part and the time period over which failures were observed. Failure rates are commonly expressed in terms of the number of failures per million hours of operation, although conversion can be made to any time base convenient for discussion.

The similarities between TRF and failure rate are readily apparent. They both represent a ratio of the number of occurrences of an event (failure or usage) to the population of the item in service during the time the event occurred. They both are used to predict the number of events expected to occur during some future time period for some known population in service during this future time period. They both are subject to bias due to faulty classification (e.g., an item was replaced even though it had not failed).

The TRF assigned to an item is not only a function of failure, but is also a function of maintenance philosophy, since it is the maintenance philosophy which determines what is to be replaced (demanded).

2. TRFs of Zero. There is a rationale for an item to have a TRF of zero. For example;

- ? It is never demanded, because it never fails.
- ? It is never demanded because when it fails it is not replaced since the individual parts within, which have caused it to fail, are replaced (i.e., the item is repaired).

In each of the above, the single condition which causes an item to have a TRF of zero is that it is never demanded. There is but one reason for an item to have a zero failure rate--it never fails.

3. Example of TRF Calculation. TRF is calculated by applying the appropriate data to the ratio from the testing to the ratio of item replacement times the hours per year divided by item population for the test times the hours of the test. This is represented by the following equation:

$$\frac{\text{Replacements x Operating Hrs/Year}}{\text{Test Population x Test Hrs}}$$

The TRF is an eight position numeric entry in Block C-34 (MRRI Block) of the LMI Provisioning Data Product requirements format (See LMI Worksheet and its narrative). The decimal point is assumed to fall between the fourth and fifth positions. The procedures for calculating the TRF of a table lamp are presented in this section. The lamp consists essentiality of 4 parts:

- The light bulb - a consumable assembly
- The combined socket and switch - a consumable assembly
- The electric cord - a consumable item
- The plug - a consumable item.

The assumption is made that the lamp is operated for 1,000 hours a year, or a little less than 3 hours a day, and that the functional parts of the lamp listed above have the following Mean Time Between Failures (MTBFs) and failure rates:

Item	MTBF	Failure Rate/Year
Light Bulb	750 HRS	1.333
Socket Switch	10,000 HRS	0.100
Electric Cord	15,000 HRS	0.066
Plug	10,000 HRS	0.100

By summing the failure rates of the parts of the lamp, the failure rate of the lamp itself can be derived. Doing this, it is found that the lamp will fail 1.599 times per year, largely due to the light bulb failing 1.333 times per year, but the other parts will make some contribution to the failure rate of the lamp. The table above does indicate, however, that if the lamp is owned for a long period of time, say 10 or more years, failure of the socket/switch cord or plug is to be expected. Note at

this point that even though the failure rates of the parts of the lamp have been determined, the TRFs of the parts or the lamp still cannot be determined. To do this, the maintenance philosophy for the lamp needs to be known. In this simplified case, the number of different maintenance philosophies available are few: the lamp may either be repaired when it fails, replaced when it fails, or a combination of the two. That is, the lamp might be repaired when it fails if the light bulb is the failed part, and replaced when any of the other parts have failed. Note that the TRFs to be assigned to the lamp and the parts are a function of which of the above is chosen. If the lamp is replaced any time it fails, the lamp is the replaced (demanded) part; therefore, it has a TRF, but none of the parts do. If the lamp is repaired by replacing the failed parts, each of these has a TRF; the lamp does not. If the light bulb is replaced when it burns out, but the whole lamp is replaced when anything else fails, the lamp and the light bulb have TRFs, but the other parts do not. The maintenance philosophies and the resultant variable TRFs can be shown in a table thus:

Item	Failure Rate Per Year	Replace Failed Part	Replace Lamp	Replace Failed Bulb, Otherwise Replace Lamp
Lamp	1.599	TRF = 0	TRF = 1.599	TRF = 0.266
Bulb	1.333	TRF = 1.333	TRF = 0	TRF = 1.333
Socket/Switch	0.100	TRF = 0.100	TRF = 0	TRF = 0
Cord	0.066	TRF = 0.066	TRF = 0	TRF = 0
Plug	0.100	TRF - 0.100	TRF = 0	TRF = 0

Using the simplified example above, some parallels can be drawn between this example and the maintenance philosophies experienced in supporting shipboard equipment.

The first maintenance philosophy represents the "traditional" way a majority of equipment is supported today (i.e., repair in place using piece parts throughout the life of the equipment, with replacement of the end item only in the event of catastrophic failure or damage beyond repair).

The second philosophy represents the case of modular replacement with no repair at the organizational level. In the case of Navy equipment, the module, or in our example the lamp might be sent to a depot for repair and returned to the owner or to stock.

The third philosophy represents limited organizational maintenance with more difficult and time consuming repair deferred to a higher level.

The sample serves to illustrate that assignment of a TRF requires knowledge of failure rates for the parts concerned. TRF is also a function of the maintenance philosophy to be applied. That is, the determination must be made whether the item will be replaced (demanded) upon failure, for if an item will not be replaced (demanded) upon failure, its TRF must be zero. Since TRF equals demand divided by population, if demand is zero, TRF is also zero.

4. TRFs Assigned to Consumables. TRFs for low cost, common design consumables (resistors, capacitors, etc.) shall be taken from the Generic Item Name Technical Replacement Factor Guide. (Provided as Government Furnished Information [GFI]). This data reflects observed supply demand for these items, including false replacements, requisitions for stores, tool boxes, losses, etc., in addition to actual failures. For high cost, unique design consumables peculiar to the end item (special purpose tools, power supplies, potted or encapsulated assemblies), use the following sources in descending order of preference:

a. Actual failure data from the manufacturer.

b. MIL-HANDBOOK-217 Reliability Prediction converted to TRF by multiplying failures per hour by yearly component operating hours, taking duty cycles and stress factors into consideration.

c. Observed data for similar items.

5. Repairable Item TRFs. TRFs for repairable items are first assigned a raw TRF as described in paragraph 4 above. The raw TRF is then derated by a derating factor described below.

a. Items Totally Repairable at the Organizational Level. Obtain the appropriate TRF as described in paragraph 4 and then apply a derating factor from .10 to .99 depending upon the ease of repair, cost of the item and availability of all components of the assembly at the organizational level. The resulting replacement factor will be the number of items per application per year which fail, are not repaired at the organizational level, and must be requisitioned from the storeroom.

b. Items Installed by the Intermediate Level and Totally Repairable at the Intermediate Level. Obtain the appropriate TRF as described in paragraph 4 and then apply a derating factor from 10 to .99 depending upon the ease of repair, cost of the item and availability of all components of the assembly at the intermediate level. The resulting replacement factor will be the number of items per application per year which fail, are not repaired at the intermediate level, and must be requisitioned from the storeroom.

c. Items Partially Repairable at the Organizational Level and Totally Repairable at the Intermediate Level. Obtain the appropriate TRF as described in paragraph 4. A derating factor from .10 to .99 will be assigned depending on the ease of repair, cost of item, and availability of all components of the assembly at the organizational level. The resulting replacement factor will be the number of items per application per year which are neither repaired at the organizational level nor the intermediate level, and which must be replaced from system stocks.

d. Items Not Repairable at the Organizational or Intermediate Level and Partially or Completely Repairable at the Depot Level. Enter the appropriate TRF as described in paragraph 4 to the organizational level. A derating factor of .99 will be assigned. The resulting factor indicates negligible demand on system stock.

APPENDIX D

Guidance For Assignment Of Part To Component ECs

The Military Essentiality Code (MEC) indicates the degree to which unavailability of a replacement for an installed item when needed to perform corrective maintenance affects the ability of the end item to perform its primary function in the intended manner. An end item is a final combination of end products, component parts, and/or materials which is ready for its intended use (e.g., radar set, fire control system, electrical generator). The need to perform corrective maintenance is normally the result of failure of an item and so essentiality is commonly evaluated in the context of item failure, but it must be remembered that some parts may be needed for replacement owing to their use when replacing other failed parts (e.g., gaskets).

I. CODE 1

A. LMI Data Product Dictionary #280 Definition: Failure of this item will render the end item inoperable.

B. Guidance on Assignment of:

1. Failure of this item in its normal failure modes will result in total and catastrophic failure of the end item or a critical function of the end item.

2. This item is a part which normally is not considered to fail but is required to be installed, along with an item whose failure will result in total and catastrophic failure of the end item (e.g., gaskets, seals; etc.).

3. This item monitors a critical function and a malfunction will disenable an operator's capability to recognize a catastrophic failure.

II. CODE 3

A. LMI Data Product Dictionary #280 Definition: Failure of this part will not render the end item inoperable.

B. Guidance on Assignment of:

1. Failure of this item in its normal failure modes will result in at most minor degradation of the end item.

III. CODE 5

A. LMI Data Product Dictionary #280 Definition: Item does not qualify for assignment of Code 1 but is needed for personnel safety.

B. Guidance on Assignment of:

1. The Navy states that for MEC Code 5, the item may or may not qualify for assignment of Code 1; however, failure without immediate replacement or lack of this item will directly and immediately infringe on the safety of personnel operating or maintaining the equipment. This code should not be assigned to parts or assemblies which are installed in systems whose primary purpose is safety of ship/aircraft or personnel simply because of that system relationship unless the item separately meets the first part of this guidance.

2. If an item qualifies for MEC 5, it should be assigned MEC 5 regardless of what other MEC it also qualifies for.

IV. CODE 7

A. LMI Data Product Dictionary #280 Definition: Item does not qualify for the assignment of Code 1 but is needed to prevent impairment or the temporary reduction of operational effectiveness of the end item.

B. Guidance on Assignment of:

1. Failure of this item in any of its normal failure modes will not result in total and catastrophic failure of the end item but rather will result in only partial degradation of the end item allowing continued operation within acceptable performance ranges. Items should be classified as MEC 7 if their normal failure modes are gradual deterioration or wear and such gradual deterioration or wear is noticeable or detectable prior to its reaching maximum limits. Items should also be classified as MEC 7 if redundancy provides for continued operation after failure of one unit of an item but at reduced capacity or capability. If redundancy provides for continued operation after failure of one unit of an item at normal capacity or capability, assignment of MEC 3 is appropriate.

2. This assignment applies to all built-in test circuitry which is critical to the monitoring or fault isolation of the end item. The exception applies to those components which monitor critical functions in which a failure will hide a critical failure.

APPENDIX E

Reference Designation, Quantity per Assembly and Quantity per End Item

The purpose of the Reference Designation Example is to illustrate the relationships between the following data elements:

- Reference Designation
- Quantity per Assembly (QTY/ASSY)
- Quantity per End Item (QTY/EI)

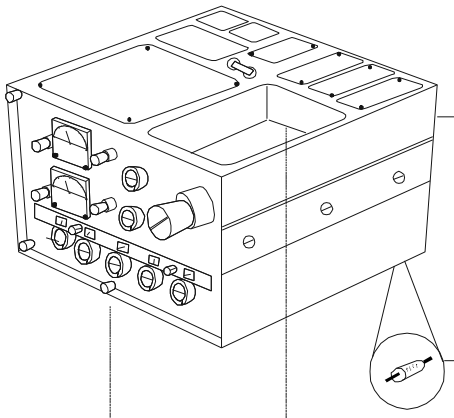
REFERENCE DESIGNATION STRUCTURE:

A reference designation provides configuration information linking a component to a location within an equipment. The preferred reference designation structure is the standard ANSI Y32.16 electronics format (i.e., 1A2C-5). Other acceptable formats are the technical manual figure and index number (i.e., FIG-12 ITEM-38) or the engineering drawing and item number (i.e., DRAWING 39847-4 ITEM 25). The TSA can provide additional guidance regarding acceptable reference designation formats. The receiver appearing on the next page illustrates the relationship of an equipment (e.g., the receiver) to some of its component parts. The receiver and its subordinate components are all identified by a unique reference designation. Each additional level of indenture of breakdown adds additional characters to the Reference Designation, moving from the receiver (Reference Designation "1") to the diode (Reference Designation "1A2A6A15CR-4"). The following "family tree" for the diode describes these relationships:

LINE ITEM	REFERENCE DESIGNATION	QTY ASSY	QTY EI	PART NUMBER
RECEIVER	1	1	1	01A2266000-21-11
RADIO-SUBASSY	1A2	1	1	01A2266062-21-11
DIODE	1A2CR-1	1	4	JAN IN649
XLATOR-SYN	1A2A6	1	1	99A226060-21-11
CIRCUIT CARD	1A2A6A15	1	2	01A226078-21-11
DIODE	1A2A6A15CR-4	2	REF	JAN 1N649

(See Reference Designation Example on page F-2)

REFERENCE DESIGNATION
EXAMPLE



LISTINGS

REFERENCE DESIGNATION	QTY ASSY	QTY EI	NOMENCLATURE	PART NUMBER
1	1	1	RECEIVER	01A2266000-21-11
1A2	1	1	RADIO-SUBASSY	01A226062-21-11
1A2CR-1	1	4	DIODE	JAN 1N549
1A2A6	1	1	XLATOR-SYN	99A225050-21-11
1A2A6A15	1	2	CIRCUIT CARD	01A226078-21-11
1A2A6A15CR-4	2	REF	DIODE	JAN 1N649
1A2A8	1	1	POWER SUPPLY	01A266170-21-11
1A2A8R-2	1	1	RESISTOR	RCR07G105JS
1A2A8CR-1	1	REF	DIODE	JAN 1N649

QTY/ASSY AND QTY/EI RELATIONSHIPS:

The sum of all QTY/ASSY values for a given part in the equipment must equal the QTY/EI of the part. This may lead to a computational problem when an assembly is used several times in an equipment but its component parts are listed only once at the first appearance of the assembly.

To resolve the problem, the QTY/ASSY of each component is adjusted by multiplying the original QTY/ASSY by the QTY/EI of the assembly. In the "receiver" example, the original QTY/ASSY of the 1A2A6A15CR-4 diode (i.e., "1") is multiplied by the QTY/EI of the 1A2A6A15 assembly (i.e., "2") and the resulting QTY/ASSY for the diode is "2."

An automated summation of the QTY/ASSY values for the diode, part number JAN IN649, now results in a correct QTY/EI value of "4."

REFERENCE DESIGNATION, QTY/ASSY AND QTY/EI RULES:

The following "rules" will help ensure that proper Reference Designations, Quantity per Assembly and Quantity per End Item are provided in Provisioning Technical Documentation:

- ? Dashes are required in the piece part field. This dash separates the alpha and numeric portion of the piece part identification.
- ? Each Reference Designation must be unique.
- ? Reference Designation structure must provide an auto- mated sort in top-down sequence.
- ? Reference Designation must agree with technical manuals and drawings.
- ? Quantity per End Item must indicate the total quantity within the "equipment".*
- ? A summation of the Quantity per Assembly for a part within an "equipment"* must be equal to the QTY/EI for the part.

* The term "equipment" refers to any item being documented by a unique Provisioning Contract Control Number (PCCN).

APPENDIX F

Indenture Coding

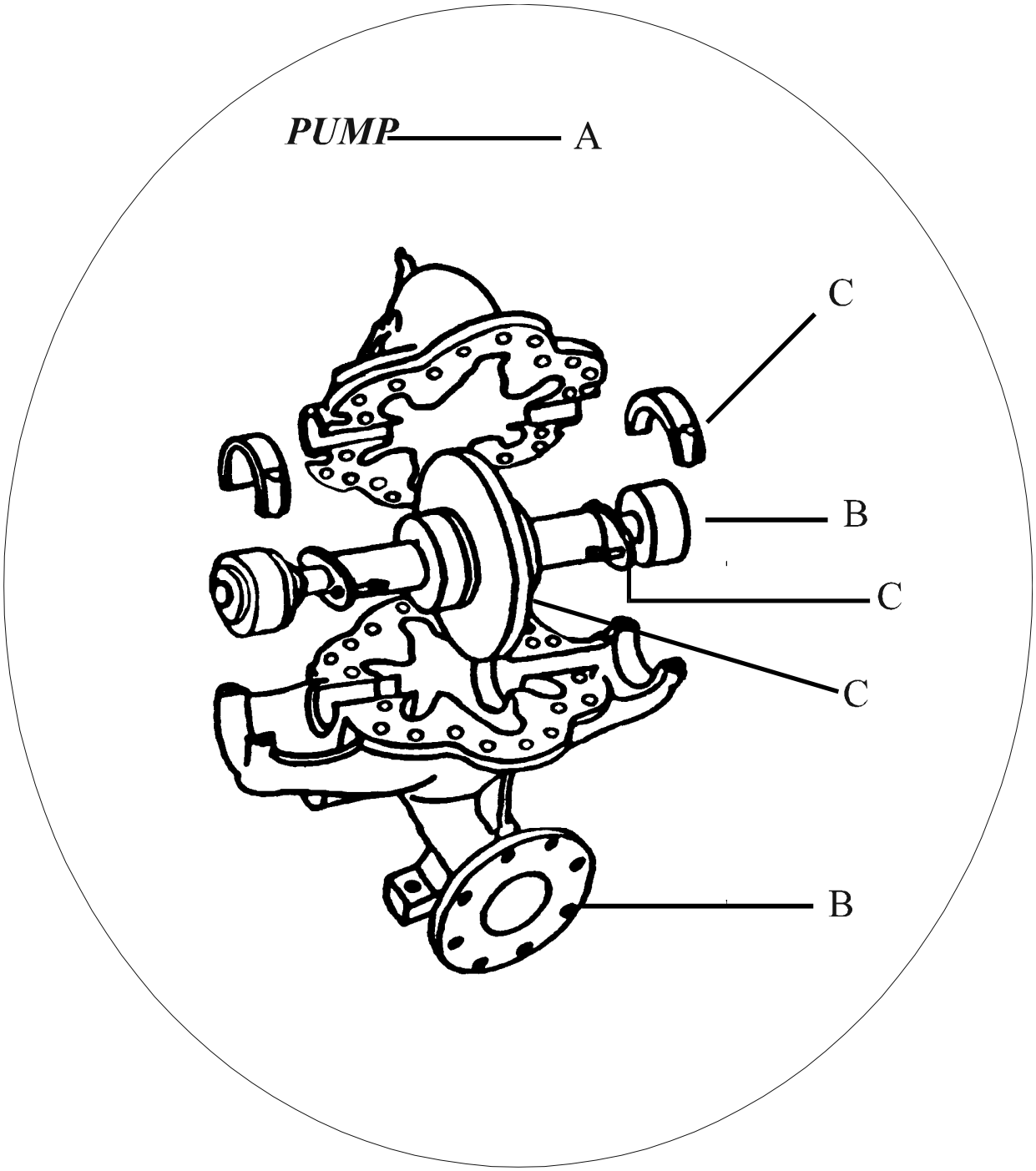
The purpose of the Indenture Coding Example is to illustrate the relationships between the following data elements:

- Indenture Code
- Quantity Per Assembly (QTY/ASSY)
- Quantity per End Item (QTY/EI)
- Part Numbers

INDENTURE CODING STRUCTURE

All PCCNs will have indenture codes assigned to each PLISN. PCCNs utilizing reference designators will have the reference designator as the sequencing method. PCCNs without reference designators assigned will utilize indenture codes for sequencing purposes. They are used to show a lateral and descending family tree relationship of each line item to and within the system or end item and its components (units), assemblies, subassemblies, and sub-subassemblies. Indenture codes are assigned as a one-character alphabetic symbol as follows:

```
*A*B*C*D*E*F
*
*A  END ITEM
* *B  Detailed parts of end item not contained in components of
* *   installed system
* *
* *B COMPONENT (UNIT)
* * *C  Detailed parts of component (unit) which are not
* * *   assemblies or subassemblies
* * *
* * *C  ASSEMBLIES
* * * *D  Detailed parts of assemblies which are not
* * * *   subassemblies
* * * *
* * * *D  SUBASSEMBLIES
* * * * *E  Detailed parts of subassemblies which are not
* * * * *   sub-subassemblies
* * * * *
* * * * *E  SUB-SUBASSEMBLIES
* * * * * *F  Detailed parts of sub-subassemblies
* * * * * *
```


PUMP
A
C
B
C
C
B

The following "family tree" shows the indenture coding structure as depicted in the Indenture Coding Example.

Note that the first listed bearing at indenture level "C" shows a QTY/ASSY of 1 and a QTY/EI of 2. For the second listed bearing, which has the same part number as the first listed bearing, the QTY/EI is REF to indicate that this line item has already appeared on the provisioning list.

Line Item	Indenture Code	QTY/ASSY	QTY/EI	Part Number
PUMP	A	1	1	ABC
CASING	B	1	1	DEF
ROTOR ASSY	B	1	1	GHI
IMPELLER	C	1	1	JKL
SHAFT	C	1	1	MNO
BEARING	C	1	2	PQR
BEARING	C	1	REF	PQR

APPENDIX G

GENERAL APL WORTHINESS GUIDANCE

This Appendix contains guidelines for use in determining the need to submit PTD for the development of APLs to support new items. While these rules provide general guidance for determining if an item is non-APL worthy, any item that requires clarification of APL worthiness should be referred to the TSA for final determination. PTD submittal shall be required for all items determined to be APL worthy.

1. GENERAL APL WORTHINESS RULES: An item is considered APL worthy if it is identifiable by its own nameplate, can be operated independently or as part of another system, and if either of the following situations apply:

a. The end item/component is determined by the maintenance philosophy to be repairable through replacement of one or more parts, or

b. The end item/component has been determined to be non-repairable (consumable) by the maintenance philosophy, but is mission critical or configuration worthy.

If any of the above guidance is not applicable, the item is considered non-APL worthy and will be added as a Line Item (LI) to the Next Higher Assembly (NHA) APL or to the ship's 89000 series APL.

2. ADDITIONAL HULL, MECHANICAL AND ELECTRICAL (HM&E) EQUIPMENT GUIDANCE: For a current listing of HM&E equipment requiring special provisioning and/or allowance preparation procedures, or equipment that will not have supply support provided, see “APL Worthiness Guidance” at http://157.187.24.139

APPENDIX H
Commercial and Non-Developmental Item (CaNDI) Allowance Documentation Guidance

1. CaNDI Allowance Document Development. The following guidance is provided to aid in the development of allowance documentation for repairable, consumable and embedded CaNDI items.

1.1. Repairable CaNDI End Items/Components: APLs will be developed for CaNDI end items/components determined by the maintenance philosophy to be repairable through replacement of one or more parts.

1.2 Non-Repairable (Consumable) CaNDI End Items/Components: APLs may also be developed for end items/components, which have been determined to be non-repairable, by the maintenance philosophy, but are mission critical and configuration worthy. The following options may be used as methods of supporting consumable, end item type CaNDI items:

- **Option 1:** Develop a configuration RIC with a NSN/NICN for identification/reordering of the end item/component by the user.

- **Option 2:** Equipment category type “Shopping list” APLs could be developed which would identify a listing of items that the fleet would select items from. If desired, the shopping list APLs could be identified in SNAP to allow for easier requisitioning by the fleet provided that the items identified are assigned a “Z” over ride to prevent allowance computations. Computers and computer accessories that are used for desktop computing in an office environment are a good example of equipment suited for this type of APL support.

- **Option 3:** Develop “Generic” Equipment APLs. The APL will cover a broad range of models and it would include a single generic NSN/NICN coded as either Local Supported items or by using a generic performance specification. Any special operating parameters will have to be identified on the APL for reference. For Local Support Items, the APL must also include procurement guidance to assist the fleet with procuring approved equipment. Equipment such as Furuno Radar is an example of this type of equipment.

- **Option 4:** Use Allowance Equipage Lists (AELs) with generic P-NICNs for the portable CaNDI items. Hand held/portable

devices are an example of this type of equipment. AELs for these items will be developed as follows:

a. The numbering method for these AELs will be 3-(the ship's UIC) xxx1
b. Only one AEL will be developed for each hull on an as needed basis.
c. Only those items deemed "COSAL" worthy, but not falling into one of the other categories will be listed on this AEL.
d. AEL will indicate that all items listed are "local purchase, local support" only. No supply support will be provided.
e. All items listed on this AEL will receive an Allowance Note Code of "H" indicating that this item is listed for information only and will not appear in the SNSL. This will provide the needed accounting control and ensure that outfitting funds will not be utilized.
f. All items listed on this AEL will be assigned a P-NICN, leaving the particular manufacturer and model/type up to the individual ship.
g. All initial procurements and replacements of these items will be paid for out of the ship's operating funds. No outfitting funds will be utilized.
h. Any allowance change requests will require the submission and approval of an Allowance Change Request (ACR) form through the appropriate channels per the PAFOS Manual.

1.3 Embedded/Consumable CaNDI Items: CaNDI items, which are consumable in nature and embedded into a system, may be identified as line items on the Next Higher Assembly (NHA) APL. For cases where the NHA or system is not an APL worthy item, the consumable CaNDI items may be added as line items to the appropriate ships 89000 series APL.

2. Additional Guidance for Electronic CaNDI Equipment.

2.1. Joint Electronics Technical Designation System (JETDS) Nomenclature Assignment. MIL-STD-196E requires establishment of Joint Electronics Technical Designation System (JETDS) nomenclature for electronic equipment for which the government owns and controls design and configuration rights. It prohibits JETDS nomenclature assignment for unaltered COTS items where the government does not own and control design and configuration. JETDS nomenclature for COTS intensive systems should use a formal nomenclature for only the government controlled components in the system with all other components being designated by CAGE and Manufacturer's Part Number. This could restrict the JETDS nomenclatures to racks and consoles specifically designed to

house COTS equipment and components. When the contents of the racks and consoles are COTS elements, they shall not require JETDS nomenclatures and will be treated as separate items. The system itself shall not require a JETDS nomenclature and it would use an HM&E style name like “COTS SURFACE SEARCH RADAR SYSTEM”. However, if the government owns and controls system level design and configuration, a system level JETDS nomenclature indicating the COTS nature (e.g. AN/SPS-XX(V) COTS SURFACE SEARCH RADAR SYSTEM FAMILY) is required.

2.2. APL Characteristics. The COTS item shall be specified by functional, electrical, and physical specifications for initial selection into the system design. These specifications shall be documented on the Allowance Parts Lists (APL) to enable ship and fleet maintenance personnel to make rapid substitution decisions. CAGE/Part Number identifications must be the CAGE/Part Number of the OEM of the item rather than CAGE/Part Number assigned by the “system integrator” or other secondary provider.

2.3. Allowance Component Lists (ACLs). Traditional Allowance Component Lists (ACLs) at the electronic system level shall not be developed for COTS intensive systems having numerous optional components unless a cost effective benefit can be demonstrated. When used, ACLs must be maintained as the product lines change, adding to the life cycle cost, or they will loose any usefulness.

2.4. Alterations. Traditional Field Change/ORDALT style of alteration management for COTS intensive systems results in avoidable costs and complexity. The addition, removal, or substitution of additional components shall be regarded as simple maintenance events rather than an actual alteration of an end item. Such events shall be treated as SHIPALTs rather than Field Changes or ORDALTS. Otherwise, modifications to the design of the government owned and controlled items will require traditional Field Change/ORDALT alteration management.

APPENDIX I

PRELIMINARY ALLOWANCE LIST DATA ELEMENTS

LMI Format Block #	LMI Provisioning Data Product (PDP) Description	DEN #	LMI PDP Dictionary #
MANDATORY PROVISIONING DATA PRODUCTS:			
- Required for All Items			
A-1	**Provisioning Contract Control Number (PCCN)**	C011	870
A-2	**Provisioning List Item Sequence Number (PLISN)**	E038	890
A-5	**Commercial and Government Entity Code (CAGE)**	C035	140
A-6	**Reference Number**	D001	1050
A-11	**Essentiality Code (EC) (Must be 1, 3, 5, 7)**	C008E	280
A-12	**Item Name**	C004	480
B-22	**Source Maintenance and Recoverability Code (SMR)**	D012/D013A D013B/D013C D012A	1220
B-23	**Demilitarization Code (DMIL)**	D017	230
B-26	**Controlled Inventory Item Code (CIIC)**	C017	180
C-32	**Quantity Per Assembly**	D011	930
C-33	**Quantity Per End Item**	D011	950
A-4	**Indenture Code (HM&E, Ordnance)***	-------	370
D-44	**Reference Designation (Electronics)***	D004	1030
	* Indenture Code or Reference Designation must be assigned.		
CONDITIONALLY MANDATORY PROVISIONING DATA PRODUCTS:			
- Required if item is new (No NSN)			
B-19	**U/I Price**	B053	1500
B-24	**Production Lead Time (PLT)**	B010A	830
C-34	**Maintenance Replacement Rate I (MRRI)**	F001/F027	560
- Required if item is new (No NSN) and a Depot Level Repairable (DLR)			
E-65	**Remain In Place Indicator (RIP)**	F078	*
E-60	**Designated Rework Point (DRP)**	F016	*
- Required if item is new (No NSN) and Source Code = "PC"			
A-13	**Shelf Life (SL)**	C028	1190
A-14	**Shelf Life Action Code (SLAC)**	C029	1200
- Required if item is new (No NSN) and Unit of Issue is non-definitive			
B-16	**Unit of Measure (UM)**	C054C	1510

PRELIMINARY ALLOWANCE LIST DATA ELEMENTS

LMI Format Block #	LMI Provisioning Data Product (PDP) Description	DEN #	LMI PDP Dictionary #
DEFAULTED PROVISIONING DATA PRODUCTS:			
	- Submit if other than Default Value		
A-7	**Reference Number Category Code (RNCC);** Default = "5"	D024	1060
A-8	**Reference Number Variation Code (RNVC);** Default = "1"	D006	1070
A-9	**Document Availability Code (DAC);** Default = "5"	D001B	*
B-18	**Unit of Issue (U/I);** Default = "EA"	C005	1470
B-27	**Precious Metal Indicator Code (PMIC);** Default = "A"	C411	790
D-52	**Minimum Replacement Unit (MRU);** Default = "1"	C007	*
E-62	**Acquisition Method Code (AMC);** Default = "5"	D025E	*
E-63	**Acquisition Method Suffix Code (AMSC);** Default = "Q"	D025F	*
OPTIONAL PROVISIONING DATA PRODUCTS:			
	- Submit if Available or Applicable		
B-15	**National Stock Number (NSN) and Related Data**	D046D	680
A-5/6	**Additional CAGE/Reference Number(s)**	C035/	1050
	Limit to a maximum of three additional numbers.	D001	
D-43	**Usable On Code (UOC)**	-------	1560
D-50	**Allowance Item Code (AIC);** (See Note 1)	-------	010
D-51	**Allowance Item Quantity (AIC QTY);** (See Note 1)	-------	020

---

* Provisioning Data Product (PDP) is not defined in the LMI Performance Specification. It is a Supplemental Provisioning Data Product and additional information is provided in the narrative that accompanies the LMI Worksheet.

NOTES to TSA/ISEA:

(1) The Allowance Item Code and Allowance Item Quantity should be limited to the same values used for APLs, e.g. PMS Overrides, MAMs, OSI, approved ACIM overrides, etc. Since the PAL will contain all the necessary data to perform COSAL/SNAP II computations, the Allowance Item Code/Allowance Item Quantity should not be used for SRI overrides, other than ACIM. The Allowance Item Code/Allowance Item Quantity will load either the Allowance Factor Code, Allowance Note Code, or the Technical Override Code and the respective quantity.

APPENDIX J

Provisioned Item Orders (NAVSEA) (Feb 1994) and Guidance for Completion of Standard Form 26, Award/Contract

(a) General. The Contractor agrees that it will furnish the supplies or services ordered by the Government in accordance with the procedures specified herein. Orders will be placed by the Contracting Officer, Provisioning Activity, or Administrative Contracting officer as unilateral or bilateral modifications to this contract on SF 30, Amendment of Solicitation/Modification of Contract. Any amounts shown in Section B at time of award of the initial contract for each provisioned line item are estimated amounts only and are subject to upward or downward adjustment by the issuing activity. If no amounts are shown, funding will be obligated before or at time of order issuance. It is understood and agreed that the Government has no obligation under this contract to issue any orders thereunder.

(b) Priced Orders. For each proposed order, the Contractor agrees that it will submit a signed SF 1411 (Contract Pricing Proposal) or such other cost or pricing data as the Contracting Officer may require. Promptly thereafter, the Contractor and the Contracting Officer shall negotiate the price and delivery schedule for the proposed order. Upon execution and receipt of the priced order, the Contractor shall promptly commence the work specified in the order.

(c) Undefinitized Orders. Whenever the Contracting Officer determines that urgent demands or requirements prevent the issuance of a priced order, he/she may issue an unpriced order. Such order may be unilateral or bilateral and shall establish a limitation of Government liability, a maximum ceiling amount, and a schedule for definitization, as described in subparagraph (e) (2) below. Upon request the Contractor shall submit a maximum ceiling amount proposal before the undefinitized order is issued. The maximum ceiling amount is the maximum price at which the order may be definitized. The contractor shall begin performing the undefinitized order upon receipt, except as provided in paragraph (d) below. The clause entitled “PRICE CEILING” (DFARS 252.217-7027) shall be included in any undefinitized order.

(d) Rejection of Unilateral Orders. The Contractor may reject any unilateral order if the Contractor determines that it cannot feasibly perform the order, or if the Contractor does not concur with the maximum ceiling amount. However, each unilateral order shall be deemed to have been accepted by the Contractor unless within fifteen days of issuance of the order, the Contractor notifies the Contracting Officer in writing of its rejection of the order.

(e) Definitization of Undefinitized Orders.

(1) The Contractor agrees that following the issuance of an undefinitized order, it will promptly begin negotiating with the Contracting Officer the price and terms of a definitive order that will include: (A) all clauses required by regulation on the date of the order; (B) all clauses required by law on the date of execution of the definitive order; and, (C) any other mutually agreeable clauses, terms, and conditions. No later than sixty (60) days after the undefinitized order is issued, the Contractor agrees to submit a cost proposal with sufficient data to support the accuracy and derivation of its price; and, when required by FAR, cost or pricing data, including SF 1411. If additional cost information is available prior to the conclusion of negotiation, the Contractor shall provide that information to the Contracting Officer. The price agreed upon shall be set forth in a bilateral modification to the order. In no event shall the price exceed the maximum ceiling amount specified in the undefinitized order.

(2) Each undefinitized order shall contain a schedule for definitization which shall include a target date for definitization and dates for submission of a qualifying proposal, beginning of negotiations and, if appropriate, submission of make-or-buy and subcontracting plans and cost or pricing data. Submission of a qualifying proposal in accordance with the definitization schedule is a material element of the order. The schedule shall provide for definitization of the order by the earlier of:

(i) a specified target date which is not more than 180 days after the issuance of the undefinitized order. However, that target date may be extended by the Contracting Officer for up to 180 days after the Contractor submits a qualifying proposal as defined in DFARS 217.7401; or

(ii) the date on which the amount of funds expended by the Contractor under the undefinitized order exceed fifty percent (50%) of the order’s maximum ceiling amount, except as provided in subparagraph (f) (3) below.

(3) If agreement on a definitive order is not reached within the time provided pursuant to subparagraph (e) (2) above, the Contracting Officer may, with the approval of the Head of the Contracting Activity, determine a reasonable price in accordance with Subpart 15.8 and Part 31 of the FAR, and issue a unilateral order subject to Contractor appeal as provided in the “DISPUTES” clause (FAR 52.233-1). In any event, the Contractor shall

proceed with completion of the order, subject to the "LIMITATION OF GOVERNMENT LIABILITY" clause (FAR 52.216-24).

(f) Limitation of Government Liability.

(1) Each undefinitized order shall set forth the limitation of Government liability, which shall be the maximum amount that the Government will be obligated to pay the Contractor for performance of the order until the order is definitized. The Contractor is not authorized to make expenditures or incur obligations exceeding the limitation of Government Liability set forth in the order. If such expenditures are made, or if such obligations are incurred, they will be at the Contractor's sole risk and expense. Further, the Limitation of Government Liability shall be the maximum Government liability if the order is terminated. The "LIMITATION OF GOVERNMENT LIABILITY" clause shall be included in any undefinitized order.

(2) Except for undefinitized orders for Foreign Military Sales; purchases of less than $25,000; special access programs; and Congressionally-mandated long-lead procurements; and except as otherwise provided in subparagraph (f) (3) below, the limitation of Government liability shall not exceed fifty percent (50%) of the ceiling amount of an undefinitized order. In the case of orders within these excepted categories, the procedures set forth herein shall be followed to the maximum extent practical.

(3) If the Contractor submits a qualifying proposal (as defined in DFARS 217.7401) to definitize an order before the Contractor has incurred costs in excess of fifty percent (50%) of the ceiling amount, the Contracting Officer may increase the limitation of Government liability to up to seventy-five percent (75%) of the maximum ceiling amount or up to seventy-five percent (75%) of the price proposed by the Contractor, whichever is less.

(4) If at any time, the Contractor believes that its expenditures under an undefinitized order will exceed the limitation of Government liability, the Contractor shall so notify the Contracting Officer, in writing, and propose an appropriate increase in the limitation of Government liability of such order. Within thirty (30) days of such notice, the Contracting Officer will either (i) notify the Contractor in writing of such appropriate increase, or (ii) instruct the Contractor how and to what extent the work shall be continued; provided, however, that in no event shall the Contractor be obligated to proceed with work on an undefinitized order beyond the point where its costs incurred plus a reasonable profit thereon exceed the limitation of Government liability, and provided also that in no event shall the Government be obligated

to pay the Contractor any amount in excess of the limitation of Government liability specified in any such order prior to establishment of firm prices.

(g) Initial Spares. The limitation set forth in paragraph (c) and subparagraphs (e) (2), (f) (2), and (f) (3) do not apply to undefinitized orders for the purchase of initial spares.

(h) Terminal Date for Placement of Orders. The Contractor shall not be obligated to accept any orders placed thereunder beyond 180 days after delivery of the last end item.

(i) Segregation of Costs. The Contractor shall segregate the costs of performance of each undefinitized order from the cost of any other work performed by the Contractor.

Guidance for Completion of Standard Form 26, “Award/Contract”

Hardware contracts should establish separate Contract Line Item Numbers (CLINs) for procurement of systems support and spare parts, which may include:

- On Board Repair Parts (OBRPs)
- Maintenance Assistance Modules (MAMs)
- Installation and Checkout (INCO) spares
- System Stock or Replenishment

The following sections of Standard Form 26, "Award/Contract" should be completed:

Section B, "Supplies or Services and Prices/Costs.” This establishes the specific CLINs with the Quantity/Unit, Unit Price, and Amounts completed with “To Be Determined (TBD)” or “To Be Negotiated (TBN).” This will give the Government the opportunity to determine material requirements and to compute allowances for interim funded outfitting and interim funded replenishment spares. Separate CLINs may also be established for different appropriations to be charged for the items.

If the Supply Management Representative at the Naval Inventory Control Point is to exercise this option, the CLIN(s) should indicate “NAVICP OPTION.”

Section C, "Description, Specifications/Work Statement." This section summarizes the purpose of the CLINs and should refer to MIL-STD-1388-2B (Logistic Support Analysis Record (LSAR)) and Section H.

Section F, "Deliveries or Performance.” Since delivery dates will not yet be established, the fields for Destination and Delivery Date for each CLIN should indicate "As specified, if and to the extent Option is exercised."

Section H, "Special Contract Requirements." Section H-14 and H-15 consist of standard contract pricing, enforcement, and liability provisions related to invoking the PIO clause.